PETROLEUM WEEK

SEPTEMBER 14, 1956

■ A McGRAW-HILL PUBLICATION

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Traditionally, the higher the gravity of crude oil, the higher its price. But this may be revised because, in new refineries, heavy grades can be more valuable

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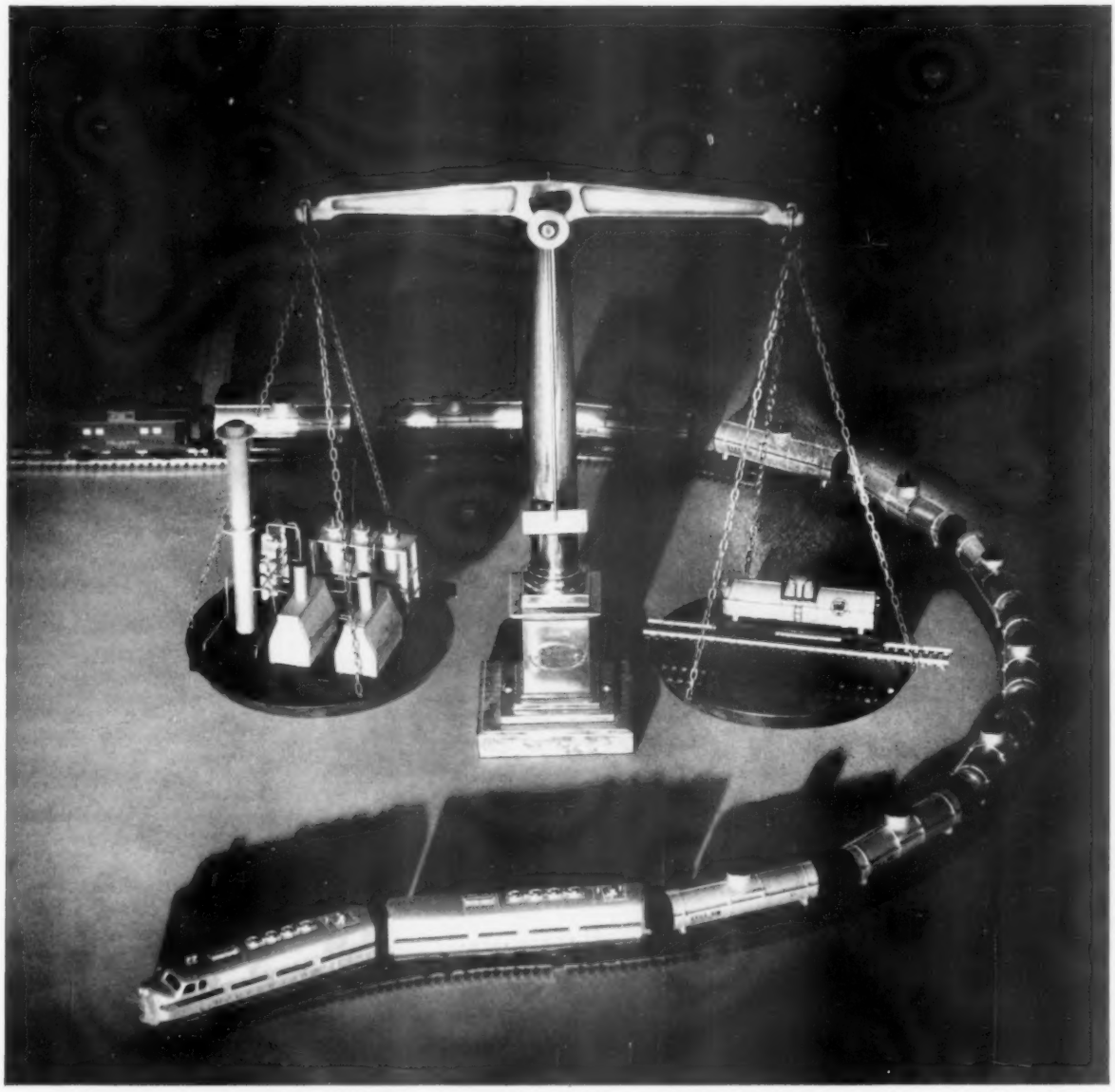

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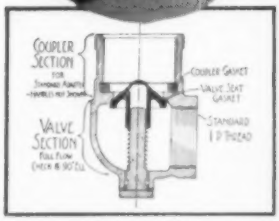

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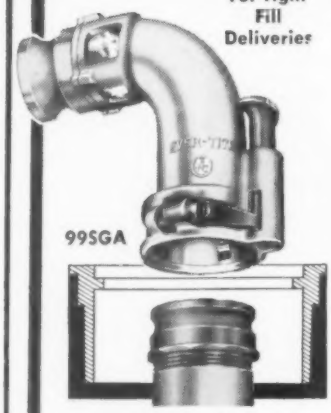

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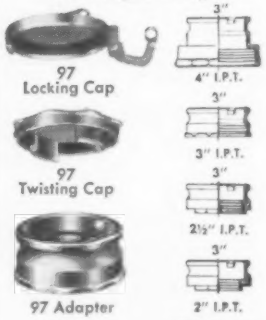

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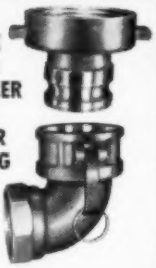

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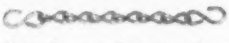

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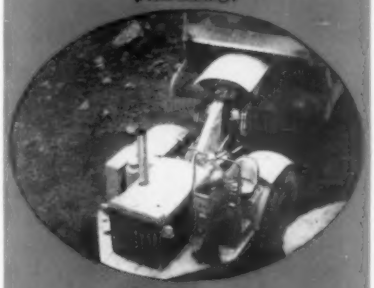

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60-Second Summary / WHAT'S HAPPENING IN OIL

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September 14, 1956

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A showdown is at hand in the Suez crisis. The mid-week announcement that England, the U.S., and France were founding an independent Canal Users Assn., to handle Suez traffic was a clear-cut effort to force Nasser's hand once and for all. If he rejects the proposal—and that's highly likely—England and France, at least, will feel free to take sterner steps. The resignation of most of the canal pilots adds further pressure for immediate action. Without them, canal traffic will be paralyzed. And Arab support of Nasser might lead to a closing of the two Middle East pipelines.

Nothing since Korea has been given higher priority in Washington. Oil, of course, occupies a central spot in the picture. That's why Defense Mobilizer Flemming flew to New York Monday. He wanted to emphasize to the Middle East Emergency Committee the urgency of immediate plans for supplying Europe with oil.

If the canal closes, the long-standing U.S. problem of imports will disappear overnight. Instead, demand for domestic production will zoom. Tankers normally bringing Middle East oil to the U.S. will be routed to Europe. And Western Hemisphere oil will also be needed to help supply Europe.

•

Some progress is being made in efforts to unite the industry on proposals for new gas legislation. No detailed plan has been drafted, but a compromise appears to be shaping that all segments could live with.

. . . p. 10

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Nearly three years of constant drilling is shaping up the longest deep oil trend in the world. It's the Dora Roberts trend in West Texas, which is already 24 mi. long. . . . p. 16

•

Europe is going to need more, not less, oil from the Western Hemisphere in the years ahead. A new study points up that a rapid climb in demand, and a growing shift to heavier fuels, can't be matched by Europe's refineries. . . . p. 51

•

The new uproar over lobbying could hit oil hard. Newspapers are giving it a big play, and politicians will make the most of it. It means rougher sledding for any new gas bill. And there may be repercussions in the form of tougher tax policies and tighter lobbying restrictions.

. . . p. 11

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The military wants more types of—and "hotter"—fuels for supersonic jets and rockets. Refiners will be asked to supply narrower-cut fuels in the distillate boiling range to meet higher performance needs. . . . p. 35

•

Standard Oil Co. (Ohio) has come up with a new stratagem for invading out-of-Ohio markets. It's opening stations selling "Boron Supreme" gasoline, with no mention of the Sohio name. Point is that Boron is thoroughly identified with Sohio in many midwesterners' minds. . . . p. 46

Looking Ahead in Washington

McGraw-Hill
Washington
Bureau
September 14, 1956

The Federal Power Commission is trying to sooth gas royalty owners. In a recent decision, FPC required two royalty owners to file as natural gas companies subject to regulation. Dissenting, Commissioner Digby warned that the ruling could result in bringing many thousands of royalty owners under federal control. The Texas Independent Producers & Royalty Owners Assn. calls the decision absurd, and says it merely proves the need for "legislative correction."

FPC officials claim only a handful of royalty owners will be regulated. The majority believes the two companies involved—Elk River Coal & Lumber Co. and Northern Natural Gas Producing Co.—have an almost unique situation. They do their own contracting for sale of their one-eighth share of the gas produced—whereas the leaseholder normally contracts for sale of all the gas. FPC sources claim the great bulk of royalty owners will remain free from control. But it appears that future rulings will be necessary to clarify the confusion.

•

Justice Sherman Minton's retirement from the Supreme Court throws new uncertainty on oil litigation. The Democratic justice, who has announced he is stepping down, has a spotty record. He often sided with the court "liberals"—for example, he voted in the Phillips case to subject gas producers to regulation. Minton's successor will have an important influence on decisions involving Louisiana's offshore boundaries and the method of pricing pipeline-produced gas. Outcome of the November elections is expected to determine whether Minton is succeeded by a Republican or a Democrat.

•

There's a move to set offshore boundaries by international law. A United Nations committee has recommended that uniform territorial boundaries should be fixed by an international conference. The report will be studied by the U.N. this fall. The U.S., almost alone among nations, still sticks to a 3-mi. limit, while some nations are claiming boundaries out as far as 200 mi. Other nations are expected to challenge U.S. consistency—since the federal government claims control over oil development over the entire continental shelf. So far, however, no immediate impact on U.S. oil operations is foreseen.

•

Natural gas shortages no longer stand in the way of Florida service. Houston Texas Gas & Oil Corp. found it difficult to buy enough gas from reluctant producers to supply the proposed line from Louisiana to Florida. But the firm tells FPC it now has the contracts in hand. The pipeline also has a new service agreement with the biggest utility in Florida, only major U.S. area still not served by natural gas.

•

The Comptroller General is being asked to stop Navy drilling plans. The House Interior Committee wants a ruling on whether the Navy has legal authority to explore for oil and gas on public lands which have never been declared a naval petroleum reserve. San Nicolas Island is cited as an example. A decision that the Navy has no such authority wouldn't be binding—but it would carry enough weight to stop any Navy plans for drilling.

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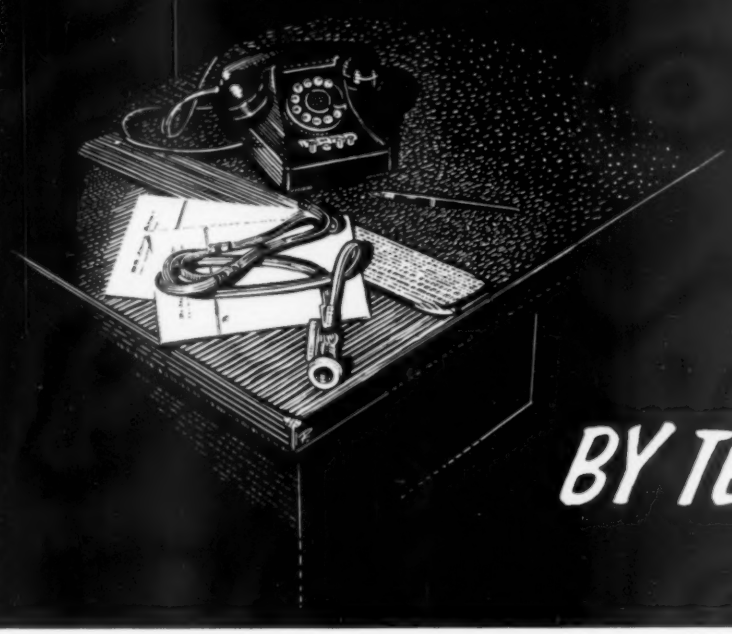

BY TELEPHONE

As scientific as our modern system of communications is, it has certain limitations. For example, a medical check-up by telephone would be a risky substitute for a direct physical examination in the doctor's office.

Each formation evaluation technique has its proper time and place, too.

For example, tangible "down-to-earth" reservoir information starts with a direct surface analysis of the basic product — the formation and its contents. Then, from these virgin data which accurately determine the physical make-up and productive potentialities of the formation, the proper choice and effective application of various types of down-hole electronical and mechanical tests can be made.

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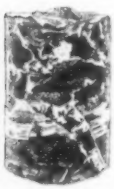

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Crude oil pricing:

Is Gravity Basis on the Way Out?

Future posted prices for crude oil may be pegged more directly on the value to the refiner than on the strict gravity basis that is used today.

That the industry has been moving in this direction is indicated in the recent changes in crude prices.

The changes, upward and downward, have been primarily on the basis of value to the refiner. The only exceptions were where it was necessary to make one crude competitive with another when the two compete in the same market.

Where there have been price increases this year, the increased postings were made strictly from the value standpoint to the refiner. This is borne out in the numerous increases for Pennsylvania grade crude and California heavy crude, and for the Mirando and Refugio types on the Texas Gulf Coast.

Refiners are responsible for the trend away from gravity as the basis of crude oil value. With new processes, they are able to run middle and heavier crudes and get as high a quality in products as they can obtain from the highest gravities.

The new, specialized equipment makes the less-costly, lower-gravity crudes particularly attractive to refiners as a way of offsetting some of the steadily increasing manufacturing costs resulting from the "products quality" race.

Too, the heavier crudes generally yield less straight-run gasoline—a drug in today's high-octane market. But they yield components with at least as high octane ratings for refinery gasoline pools as do the higher gravity crudes.

Approximately the same percentage of high-octane gasoline can be obtained out of a low-gravity barrel of crude that the old, less efficient equipment recovered from high-gravity crudes. To do this, the refiner reduces the percentage of the lower-value products falling into the residual range.

Gasoline, of course, still is the major portion of a barrel of crude. But many of the other products are as valuable as the motor fuel, ofttimes even more so, even though their proportionate part of the barrel is much smaller.

TULSA, Nov. 25, 1922 – Prairie Oil & Gas Co., bowing finally to the inexorable law of supply and demand, today issued a new set of prices, under which it will pay from 90¢ to $1.80 a barrel for various grades of oil in Oklahoma, Kansas, and North Texas.

This is the first time east of California that any buyer has posted a classified list of prices which varied according to the gravity of the crude, although producers have been receiving substantial premiums for their high-gravity oil for the past several months.

The prices posted by Prairie are as follows: –

	per bbl.
Below 28 degrees Baume gravity	$0.90
28 to and including 29.9 degrees	1.00
30 to and including 32.9 degrees	1.10
33 to and including 34.9 degrees	1.25
35 to and including 36.9 degrees	1.40
37 to and including 38.9 degrees	1.60
39 degrees and above	1.80

These new prices constitute an increase in price for about 60 per cent of the [illegible] produced daily in Oklahoma. There is [illegible] about 10 [illegible] of the [illegible]

OLD NEWSPAPER CLIPPING dates the first posting for crude oil in the Mid-Continent on a gravity basis, reflecting the greater value for the higher-gravity crudes.

The fuel requirements of the cars of today have lessened the demand for low-octane straight-run gasoline and thus reduced its value to the refiner.

This is borne out by the fact that prices for natural and straight-run gasolines have dropped steadily, and now are below $2 per bbl., compared with $3.57 back in 1948.

The octane race has greatly aggravated the natural gasoline situation. Some new plants have been designed to produce 100% of 100-octane (research) gasoline. The designers of these plants found that it was necessary to stay down near 30-gravity crude or the refiner would be unable to blend off (upgrade) the straight run gasoline economically.

The depressed market for the natural and straight-run gasolines may extend to the field, where, in some areas, the distillates and condensates actually are receiving a higher price than crude oil. It is reported that some companies are considering lowering condensate prices below that for crude. These, as do some of the higher-gravity crudes, yield more of the lighter ends.

This all could be changed by a shift in auto engines. If the auto industry goes to fuel injection, lower-octane material will be needed.

And if the trend is to turbines, the higher-gravity crudes will be worth more to the plants because of the high yields of lighter ends. Low-octane, straight-run gasoline would be a satisfactory fuel for turbines.

Some refineries already are running heavy crudes. Many others are being designed to process only heavy crude.

Generally, these plants will have a high proportion of catalytic cracking capacity to produce high-octane cracked naphthas, which offset the lower yield of virgin naphthas from these heavy crudes for making high-octane gasoline.

And while the heavy crudes yield only small volumes of virgin naphthas for catalytic reformer feed stocks, the combination of cat cracking of lower-

gravity crudes, plus coking of the residual fuel oil, produces a relatively large volume of C4 olefins (butylene and isobutylene) for the alkylation feed stock.

A large number of processes have been developed in recent years for handling the heavier crudes, some of which have a higher sulfur content than the higher-gravity oils.

Some of these are hydrogen cracking processes and others are hydrogen treating processes for removing sulfur from products after cracking.

When and to what extent changing value to refiners will be reflected in crude oil prices depends entirely upon when demand for the heavier crudes exceeds supply.

Refiners have had to invest millions of dollars in new equipment to be able to use the less-desirable crudes. Because of this tremendous investment, and because of the expensive operation of the equipment, producers cannot expect much of the increased value to be passed on to them in the form of higher crude prices any time soon.

Crude oil pricing based on gravity as the prime consideration of value, or quality, really got started in 1922.

The gravity-based posting system started in the Mid-Continent and Southwest.

Previously, most postings in this area were on a flat basis. However, there were some scattered postings on a quality or value basis.

This started in 1920, when some refiners paid as much as 25¢ per bbl. differential for crudes of 38-gravity and above.

During the period when postings on a gravity basis were getting started in the Mid-Continent and Southwest, there was also some buying on this basis in California.

Pressure from producers and the law of supply and demand were responsible for the initial posting on a gravity basis.

Prairie Oil & Gas Co. bowed to the producers when it found itself in a position in which it was practically out of the market for high gravity Mid-Continent crude.

It issued a new set of prices in November, 1922, under which it would pay from 90¢ to $1.80 a barrel for various grades of oil in Oklahoma, Kansas, and North Texas (illustration, page 9).

Prior to the posting, Prairie, which was the major purchasing agency and the price-fixer for the Mid-Continent, had contended that, inasmuch as it purchased all oil that was tendered to it no matter of what gravity, it would pay only one price for it.

Once the posting system had been started, the premium on gravity as a basis of value continued to swing upward.

Prairie's top posting had been for 39 degrees and above. But the top figure soon reached 44 degrees. And in February, 1926, the gravity scale was increased from 44 and above to 52 and above.

The underlying reason was that gasoline, regardless of octane, was salable. So, during this period, the higher the gravity the more valuable the crude.

However, the pendulum swung back again. In July, 1928, the top gravity posting was reduced from 52 to 44 and above. In a few years, it was down to the 40-degrees-and-above level that now exists.

Today's trend toward posted prices pegged more directly on value to the refiner isn't entirely new.

California crude oil purchasers found it workable back in the 30s. In March, 1931, there was a reduction in prices which penalized the high-gravity crudes while heavier oils were not affected.

The shift resulted in 14-19.9-gravity crude drawing the top price of 65¢ per bbl., as against 35¢ for 34-gravity and above.

A weak gasoline market brought another "inverted" price schedule for California in September, 1935.

Gas Bill Talk Gains Momentum

There is growing optimism that the three major segments of the gas industry will be able to agree on basic terms of a new natural gas bill.

This feeling was evident at the meeting of the Independent Natural Gas Assn. of America, in San Antonio, Tex., this week.

General outlines of provisions for a new bill were presented by convention speakers. And informal conversations also indicated that headway is being made in ironing out differences between the three segments.

Observers were careful to point out, however, that the views aired at the meeting were individual ones.

Action by such groups as the Texas Independent Producers & Royalty Owners Assn. could change the scene.

No specific agreement on new legislation has been hammered out yet, and won't be until after elections this fall. But considerable preliminary work has been done in drafting general points of agreement.

Last year there was a sharp split within the industry. Producers backed the Harris-Fulbright bill, which would have eased federal controls to a considerable extent. Distributing companies led a fight against it, directing their attack principally against "automatic" escalation clauses, which, they felt, would permit prices to rise unnecessarily. Transmission companies stayed pretty well in the background.

However, at least some members of each of the three segments now seem willing to agree on suggested compromises which would enable them to present a united front.

At this time, this appears to be the best bet as to what the principles of a new bill will be:

- The Federal Power Commission could review contract prices between producers and transmission companies and either approve or disapprove them within a set time limit.
- FPC would have no authority over initial price negotiations between producers and transmission companies, other than to determine that they bargained freely "at arms length." There would be no "cost" or "utility" rate base standard.
- New contracts could include "reasonable" fixed escalation clauses, but no "spiral" escalation or most-favored-nation clauses.
- There would be no other regulation of producers.

Producers in general, resigned to accepting some form of federal control, apparently are now willing to accept only fixed escalation clauses. These clauses, contained in the original contract, would provide for specified increases at specified periods. There would be no "automatic" increases to meet any higher prices which might later be paid in the field by other purchasers.

Distributors, on the other hand, would agree to letting producers and transmission companies negotiate the original price free of control.

Transmission companies will insist that new legislation permit them to include as operating expenses the cost of buying gas. They won't agree to legislation that could possibly cause them to have to absorb the difference between what FPC allowed in a contract and what they agreed to pay the producer.

Spokesmen in all three segments of the industry agree on one point: It will take a White House push to get any legislation across.

Senator Hints of New Lobbying Rules

Gas bill lobbying is back in the headlines. A Senate committee has discovered that unauthorized names were used in a "telegram barrage" to a senator. This may cause a new crackdown on lobbying.

The oil and gas industry—which received its greatest black eye of the Senate lobby hearings in testimony this week—is expected to learn next month what type of new restrictions on legislative activities will be proposed in the next Congress.

The special Senate lobby investigating committee was created as a result of the furor surrounding disclosure by Sen. Francis Case (R., S.D.) that he was offered a "campaign contribution" by employees of Superior Oil Co. during the fight over the gas bill.

Maston Nixon, of Corpus Christi, chairman of the General Gas Committee, testified in May that his group spent $118,625 in an educational campaign aimed at securing passage of the Harris-Fulbright bill, which would have eased federal control over gas producers. But, he said, none of the money went for campaign contributions.

Leonard F. McCollum, president of Continental Oil Co., told the committee in June that another industry group—the Natural Gas & Oil Resources Committee—tried to promote understanding of the gas business in a $1,753,000 educational campaign. But the group, he said, did no lobbying and made no campaign contributions.

So, until this week, it was generally felt that the industry had come out of the investigation rather well.

Last Monday the committee heard testimony that Standard Oil Co. (Ind.) inspired the sending of some 900 telegrams to Sen. Edward Thye (R., Minn.), urging him to vote for the Harris-Fulbright bill. Evidence was introduced that many of the telegrams were signed by persons who later denied any knowledge of them.

A committee staff member, Robert Blackburn, testified that a check showed that the 900 telegrams came from 300 Minnesota communities. He said that three or four model messages appear to have been used for all the telegrams.

Blackburn said committee investigators visited 23 Minnesota communities and interviewed 32 persons whose names were on the telegrams. He said 15 of the 32 denied sending, or authorizing, telegrams bearing their names. One was signed by a deceased mayor.

The explanation of two Indiana Standard salesmen was that they were instructed by their superiors to find three persons in each "bulk station town" in their districts to send telegrams to Thye. But both of them said company officials didn't know about the sending of "unauthorized" telegrams.

The salesmen, Keith Thomson, of Duluth, and Vernon E. Lee, of Faribault, Minn., said they were told that the "special project" was necessary because of indications that Thye might not vote for the gas bill.

Lee said he and bulk agents in his district sent 25 to 35 telegrams. He conceded that almost half were sent without the knowledge or permission of the persons whose names were used.

Thomson, who resigned from Indiana Standard in July, told a similar story. He admitted responsibility for some 30 telegrams sent to Thye. He said he personally obtained permission from about one-third of the signers, but took the word of local bulk agents that the others were in favor of the measure.

Indiana Standard's management "strongly condemned" the use of unauthorized telegrams once it learned of them. But it conceded "eager-beaver mistakes" in planning the telegraph campaign.

Frank O. Prior, president of Indiana Standard, said he had never heard of the telegraph campaign in Minnesota until he learned of the activity from Senate investigators. He said he "very definitely" disapproved of the Thye telegrams and has taken steps to prevent any such incidents in the future.

William C. Kniefel, northwestern regional manager for the company at Minneapolis, testified that the campaign was conceived in early January when Joseph Markusich, a company official from the Chicago general office, came to discuss the gas bill.

"Time was short," said Kniefel. "We got the idea of having each salesman contact the bulk station agents in his territory to get leads on at least three people who were known to support the principles of the Harris-Fulbright bill. The salesmen and agents were then to go to these people and try to persuade them to wire Sen. Thye, urging him to vote for the bill."

Kniefel said Markusich told them company headquarters had cleared the telegram campaign, but added, "Later I learned that Mr. Markusich was wrong in saying this."

Indiana Standard paid for 835 telegrams at a cost of $1,500, Kniefel said.

Publicity surrounding the telegram campaign is expected to pose a new public relations problem to be surmounted in any new move for gas legislation.

Whether by coincidence or design, the hearing was held on a dull news day, and stories concerning the false telegrams made the front page in many newspapers. This will make it more difficult for "marginal" congressmen to vote for controversial gas legislation.

New lobby legislation will probably be proposed to prevent this kind of "misleading" pressure, says Sen. John McClellan (D., Ark.), who heads the special committee.

McClellan calls unauthorized telegrams a form of "forgery," but declines to say whether he believes the present law was violated.

"We'll propose legislation as needed to prohibit this brand of lobbying in the future," he says.

The committee is expected to disclose some of its ideas for new lobby legislation when it convenes again in early October.

Although the special senate group isn't due to make formal recommendations for new legislation until Congress reconvenes in January, the pattern of questioning in the October hearings will reveal much of the members' current thinking.

Speculation on possible legislation centers around moves to prohibit reporting of advertising and public relations expenditures related to legislation as normal business expense for tax purposes, and to broaden the number of company spokesmen who must register as lobbyists.

Both Prior and A. L. Nickerson, president of Socony Mobil Oil Co., testified that contributions to the Natural Gas & Oil Resources Committee were charged as "business expenses" by their companies or affiliates.

McClellan read a letter from the Internal Revenue Service which said contributions to groups primarily designed to influence legislation are not allowed as deductions under the tax laws. IRS is now studying whether dues paid to trade associations which conduct "substantial" lobbying can be allowed as deductions.

What's New / IN THE INDUSTRY

Some Offshore Leasing May Be Permitted

There were signs this week that both Louisiana and the U. S. may be willing to yield a little in an effort to reach a temporary compromise in the offshore boundary dispute.

The state has indicated it may agree to new leasing in certain areas under certain conditions.

An Interior Dept. official said, "It looks like we're within shooting distance of agreement. But we can't tell for sure until we see it." He emphasized that the state proposal has not yet been received by Interior.

Reports from Louisiana were that the state now advocates a four-zone plan with these provisions:

- Zone 1—Three miles seaward from the shore line set by the Interior Dept. This would be undisputed state territory.
- Zone 2—From the three-mile line to a line three leagues seaward from the base line. New leasing would be permitted in Zone 2 only when it is shown that adjacent wells are draining the oil from under areas not yet leased.
- Zone 3—The area from the above three-league line seaward to a point three leagues from the line adopted as the boundary of Louisiana by the state legislature in 1953. In this zone no new leasing would be permitted for a year, unless the boundary issue is settled by the courts.
- Zone 4—The area seaward from the Zone 3 outer line. This would be administered by Interior.

Most of the offshore activity at present lies within Zones 2 and 3.

The state has also virtually completed work with offshore representatives on six legal documents covering drilling operations in the disputed areas.

•

The Justice Dept., in its first report to Congress on the effect of oil regulatory activities on competition, said it didn't have much to report.

The agency said the limited funds it was given for the job simply weren't enough to enable it to prepare "adequate and useful" reports. The department has asked Congress for $763,000, but got only $25,000.

The Justice Dept. made it clear that it considers the original congressional request requires it to look into not only Interstate Oil Compact Commission activity, but also the work of all other oil regulatory bodies.

Only on the basis of a broad inquiry, the agency said, can it make informed conclusions as to the competitive effect of the pattern of regulatory action on the oil and gas industry. IOOC is an integral part of that system, the Justice Dept. said, but certainly is not the only activity to be considered.

Aside from comparing the size of its task with the amount of money it was given to do that task, the agency didn't make any findings or recommendations.

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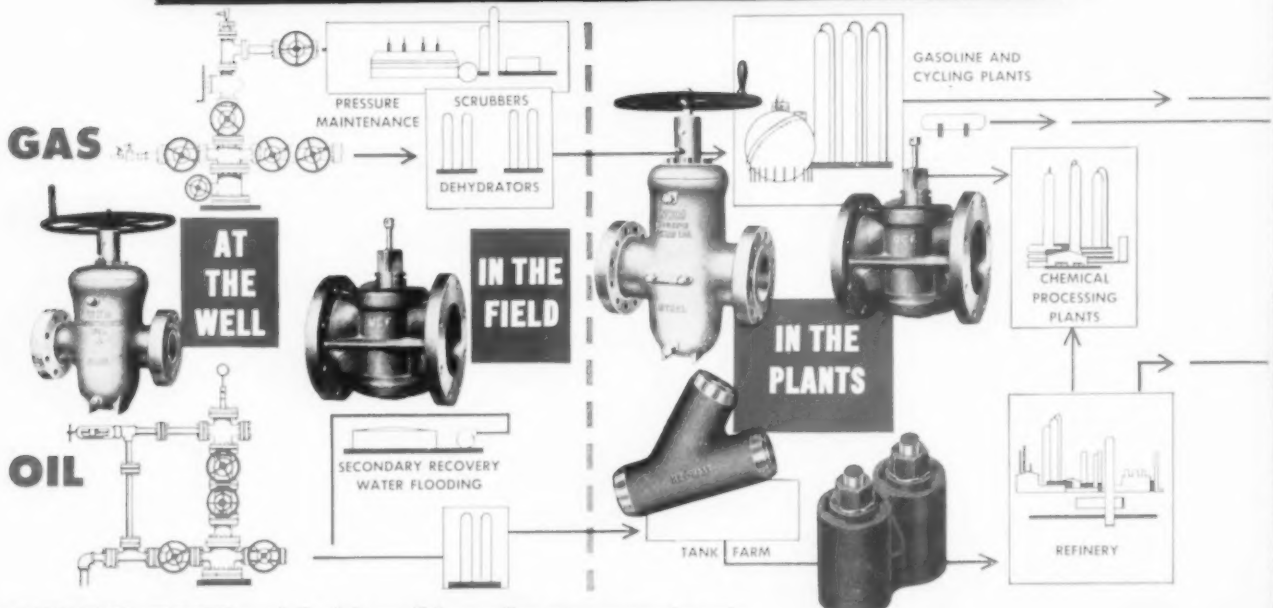

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William H. Crose, author of 15 technical books, will be over-all editor of the publication. It will be completed in about three years, and will be kept up-to-date by an annual publication covering in detail the scientific and technological developments of the previous year.

•

An industry official says that all major West Coast oil firms had better be ready to market 100-octane gasoline by early next year.

J. D. Sterling, president of Sunset International Petroleum Corp., says West Coast marketers are going to be required to meet the same demand for higher octanes now being felt elsewhere (PW—Sep.7'56,p29).

Sterling is operator of California's largest independent marketing operation, with over 300 Golden Eagle and Craig Oil Co. stations retailing over 9.5-million gal. a month.

•

The well being drilled a record distance offshore—63 mi.—has turned out to be a dry hole.

The wildcat was drilled to a depth of 13,386 ft., in 93 ft. of water, 63 mi. from Galveston, Tex.

It is in a 103,680-acre block for which Shell Oil Co. paid a bonus of almost $5.5-million in 1955.

Shell and Continental Oil Co. estimate they spent more than $1-million on the test. This includes drilling cost of almost $20,000 a day for 51 drillings days; $30,000 for surveying, soil boring, and other activities.

The mobile drilling platform which drilled the hole is being transferred to Block A-72 for a new test.

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No major land withdrawals will be made until Congress takes up the Engle bill again in January, the Interior and Defense Depts. assured the House Interior Committee. The bill would forbid military withdrawals of more than 5,000 acres from public domain or outer continental shelf lands without prior congressional approval (PW—Apr.27'56,p11). Chairman Clair Engle (D., Calif.) had asked the departments to hold such withdrawals in abeyance until Congress reconvenes.

•

Federal excise taxes on gasoline passed the $1-billion mark in fiscal year 1955. The $1.03-billion collected compares to $954.6-million for 1954.

Lube oil taxes brought in $74.6-million in 1955, compared to $69.8-million in 1954. Transportation of oil by pipeline was taxed $214.9-million in 1955, $200.5-million in 1954. And taxes on diesel fuel, including special motor fuels, came to $24.5-million in 1955, compared to $22.7-million for 1954.

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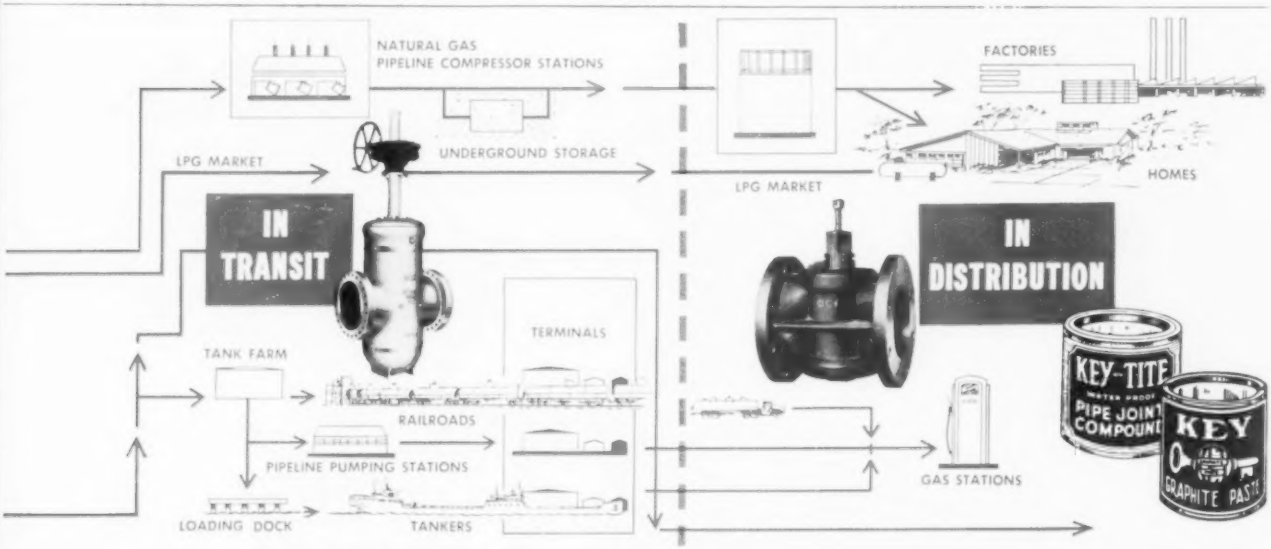
Britalta Petroleum, Ltd., of Calgary, Alta., may soon acquire Wilshire Oil Co., of Texas.

The directors of both firms have announced they will recommend the action to their shareholders.

Britalta is active in oil and gas exploration in Western Canada. Wilshire is in similar activity in West Texas and in the Rocky Mountain area.



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PETROLEUM COMMENTS / By W. M. Jablonski

Nasser's Big Goal: Oil Nationalization?

If Col. Nasser ends up victorious on the Suez issue —even on a compromise basis—there can be little doubt left of his next goal:

Nationalization of all Western oil interests in the Middle East.

The signals are all there, plain to see:

Nasser's grandiose ambitions spelled out in his own book, "The Philosophy of the Revolution"; his boast that through "control of the Arab oil" and Egypt's strategic position the Arabs can "dominate Europe"; his constant references in conversation to oil—the Middle East's only important material asset—all reveal his passionate interest in that subject.

And he has been carefully laying the groundwork.

* * * *

For months now, Radio Cairo's powerful and highly popular "Voice of the Arabs" broadcasts have been beaming a steady barrage of inflammatory attacks against Western oil interests to the main oil producing states bordering the Persian Gulf. Typical sample:

"Why do you not exploit your lost wealth, which is being plundered by the aliens? The Arab rulers concluded long-term agreements with foreign oil exploitation companies. These agreements were concluded against the will of the peoples, which resisted them, and still resist them."

Another: "The Western imperialists have stolen our oil, and have given us a few crumbs while they made billions of dollars . . . Oil is the lever by which the Arabs can get anything they want from the West."

And another: "How naive we are. Imperialism is divesting us of the strongest weapon in our hands . . . Oil is for the Arabs."

* * * *

In fact, the "Voice of Nasser" and the "Voice of Moscow" are becoming increasingly difficult to tell apart in the oil producing areas.

But there's one big difference. What Radio Moscow's propaganda couldn't accomplish in a decade—because it came from a foreign (and discredited) source—Radio Cairo may well accomplish overnight. Its message has the double appeal of coming not only from an Arab source, but from Egypt, traditional center of Arab educational and technical leadership.

These Cairo broadcasts have become "No. 1 on the hit parade" throughout the oil producing region. And they are having a deep and penetrating effect on the minds and emotions of Nasser's Arab listeners, sitting in bazaars and coffee houses, drinking in his words.

* * * *

Already, they are beginning to show powerful effects. Just as Radio Cairo was instrumental in fomenting the Jordan riots earlier this year that led to the ouster of Glubb Pasha, British head of Jordan's Arab Legion, so they are now starting a wave of riots and general unrest throughout the hitherto quiet and peaceful Persian Gulf sheikhdoms and kingdoms.

Radio Cairo can claim credit for the recent bloody riots in Bahrein against the ruling Sheikh's British adviser (who was ousted subsequently) and against the American-owned oil producing company there. It can claim credit, too, for the unrest prompting the recent short strike by Arab workers against the American oil company in Saudi Arabia (the King restored order swiftly). And it can claim credit for the first riots in oil-rich Kuwait.

The situation is further intensified by the influx of large numbers of Egyptians into the oil areas. In Kuwait, for instance, most of the teachers and many government advisers are Egyptian.

* * * *

Nasser's bold seizure of the Suez Canal has made him the unparalleled modern hero of the Arab masses. His pictures now hang on walls from Cairo to the Persian Gulf, from Syria to Aden. The man in the street in Baghdad, in Bahrein, or in Kuwait knows nothing about the Canal, or its economic implications, and cares less. But to him, Nasser is a hero for slapping the West.

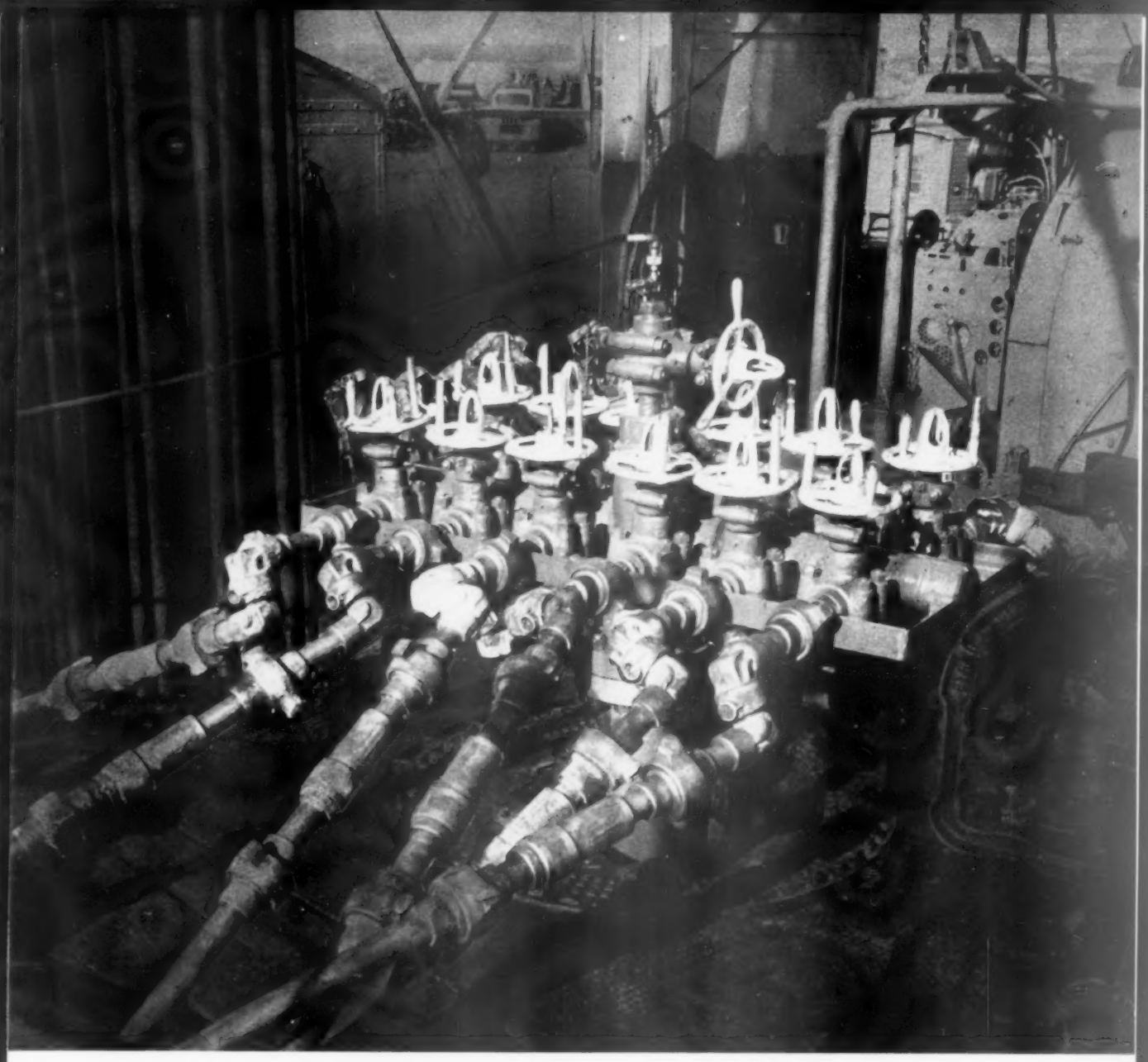
If Nasser comes out victorious on the Suez issue, there may be no stopping him. Even in a compromise solution to the Canal problem, if Nasser is able to claim success, or the appearance of success, the West may find that what it thinks to be the end of one problem will only prove to be the beginning of a much worse one.

The point is not whether the Governments of Iraq, Kuwait, Bahrein, or Saudi Arabia would want to nationalize the oil concessions. None of them would want to; their relations with the oil companies are cordial. They are satisfied with their 50% of the oil revenues, And they know they depend on Western markets for these benefits.

The point is that, with Nasser's enhanced prestige with the local masses, these governments may have little choice but to follow aroused popular sentiment or be toppled in the process.

In short, a Nasser success at Suez may well mean a Nasser success in Iraq, Kuwait, Bahrein, and the rest of the Persian Gulf—source of three-fourths of the free world's oil reserves and lifeblood of the Western Alliance.

The Suez Canal crisis may well prove the most serious challenge to the West's strategic position since the end of World War II.



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Longest Deep Oil Trend Shapes Up

New drilling seems to be linking several deep fields in West Texas into a single trend. The Dora Roberts and Headlee are the main fields involved.

The longest single deep oil trend in the U.S., and perhaps in the world, is beginning to take shape after nearly three years of constant drilling.

It's the Dora Roberts trend, now stretching 24 mi. long north-northwest by south-southeast along the Midland and Ector County lines in West Texas (map, right).

What makes it significant today is this:

Field development already has linked a string of discoveries into one reservoir, and further development is expected to extend it many miles more.

Oil men predict that it will be at least another two years before the area is completely defined.

"I expect the thing eventually to be 35 to 40 mi. long, with, of course, some weak spots in it," says a representative of one of the major operators in the area. "So far as I know, it's the longest single deep trend in the world."

The trend now consists of seven fields, which are keeping 17 to 25 heavy-duty rigs probing for additional reserves.

Nucleus of the trend are the Dora Roberts and Headlee fields, which recently have been linked together by extensions.

These two areas are about 10 mi. long, with reserves conservatively estimated at around 150-million bbl. of crude oil.

Smaller fields, located to the south and virtually linked with the Dora Roberts area, are Virey and War San. About 1 mi. north of the Headlee is an Ellenburger discovery which still is a one-well field.

Another one-well field, recently established, is 4 mi. farther north. An Ellenburger well is located between these two. However, deep dry holes are in the immediate area.

Oil men say future drilling eventually may extend these areas and establish one oil trend from the Pegasus field on the southeast to the Midland Farms area on the northwest.

Determination of the limits of the trend hinges on what happens in the northern portion.

Ultimate potential of the area also depends largely on what is found on the north, say oil men, who are touchy about the over-all picture.

There also is some question about the southeastern part, where the Virey and War San fields, only 1½ mi. apart, have proved to be smaller than the Dora Roberts and Headlee area. Farther south are such older areas as Pegasus and Sweetie Peck.

The Headlee and Dora Roberts fields produce from the Pennsylvanian, Devonian, and Ellenburger. The Virey and War San fields produce from these same formations, plus an additional one—Fusselman of Silurian age.

The same pays also have been found to the north, the direction in which the trend now seems to be spreading toward the Midland Farms field, across the Ector County line in southern Andrews County.

Lying between the Headlee and Midland Farms fields are a series of small pools. Among them are the North Headlee, Barrow, Mac Boring, and Ratliff fields.

Only recently, Magnolia Petroleum Co. developed Devonian production 1¼ mi. northwest of the North Headlee field. It also is 2 mi. south and slightly west of the Ratliff field, which points to the linking of these two areas.

Testimony at a recent hearing before the Texas Railroad Commission was that the North Headlee and Headlee Devonian areas are producing from the same reservoir.

Some of the operators in the area proposed at the hearing that the Headlee Devonian producton be limited to only three days per month in order to give sufficient time to work out a unitization and pressure-maintenance program to arrest declining pressures.

First field in what is now known as the Dora Roberts trend was the Headlee, opened by Texas Gulf Producing Co. in eastern Ector County early in 1953, with from 400 to 500 ft. of pay thickness in the Devonian and Ellenburger.

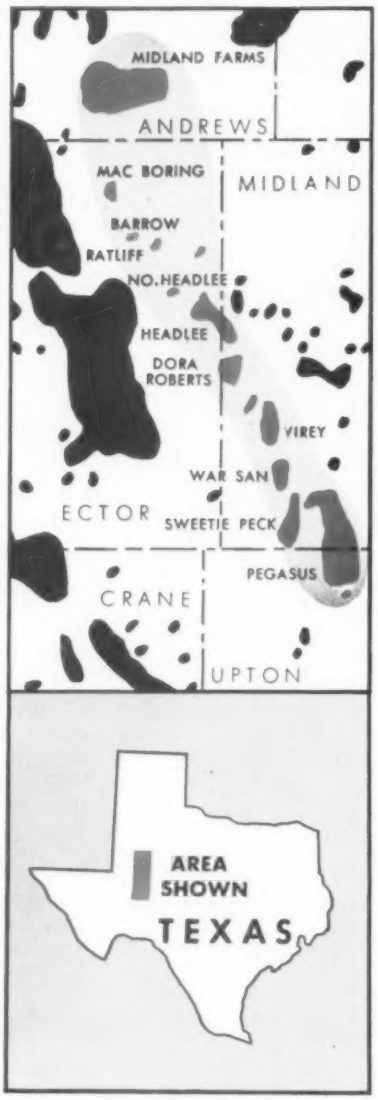
A little more than a year later, Forest Oil Corp. and Cities Service Oil Co. gambled $5-million on trend geology and came up with a lease on the Dora Roberts ranch.

It resulted in the most important deep discovery of 1954 in West Texas. This was the Dora Roberts field.

The two firms leased portions of the 19,000-acre ranch with little to go on. Until that time, oil companies did not look with too much favor on the land situation along the Dora Roberts trend.

The acreage was controlled by a handful of large ranch owners, who insisted on leasing their land at high prices prior to seismic work.

But Forest and Cities Service took the gamble. They completed a lease deal with the ranch owners, the late Mrs. Docia Brown, Ft. Worth, and Mrs. Eloise Waters, Houston. The



property formerly was owned by their mother, the late Mrs. Dora Roberts, of Big Spring, Tex.

The two companies separately acquired an interest in the acreage. Forest got five-year leases on the northeast and southwest quarters of each of the 26½ sections. Cities Service obtained all mineral rights under the southeast quarter of each of the sections.

The two firms then joined to discover the field with the No. 1-B Dora Roberts, completed from 200 ft. of Ellenburger pay section for 2,163 b/d in June, 1954.

The Dora Roberts discovery was 8 mi. southeast of the nearest production in the Headlee field.

One month earlier, in May, 1954, Ellenburger production had been established in the Virey field, which now extends onto the Dora Roberts ranch. Warren Petroleum Corp., which had opened the Virey field, then moved on to discover the War San area.

Drilling problems in the trend are few. Lost circulation in the Spraberry, Pennsylvanian, and Ellenburger formations has proved troublesome at times, but not to the extent of keeping operators from punching the wells down in from 100 to 120 days.

Of the multiple pay zones, the deepest is the Ellenburger, found at 13,000-500 ft.

Occupying an important place in the development, along with new crude oil reserves, is casinghead gas. A gasoline plant in the Headlee field recently was doubled in capacity, and now produces 140,000 gal. of liquid hydrocarbons per day. The gas throughput capacity is 35-million cu. ft. per day.

It is a unitized operation, with Texas Gulf the operator. Participating with this firm are Tidewater Oil Co., British-American Oil Producing Co., U.S. Smelting, Refining & Mining Co., Southland Royalty Co., and George and Herman Brown, of Houston.

These companies are the principal operators in the Headlee field, although some other firms have holdings there.

Now under construction in the Dora Roberts field is the Roberts Ranch gasoline plant, which will be operated by Cities Service and partially owned by other firms.

It is designed ultimately to process 50-million cu. ft. of gas per day.

Initial volume of gas to be processed in the plant will be in the range of 25-million cu. ft. daily. This gas will come from the Roberts, Virey, and War San fields.

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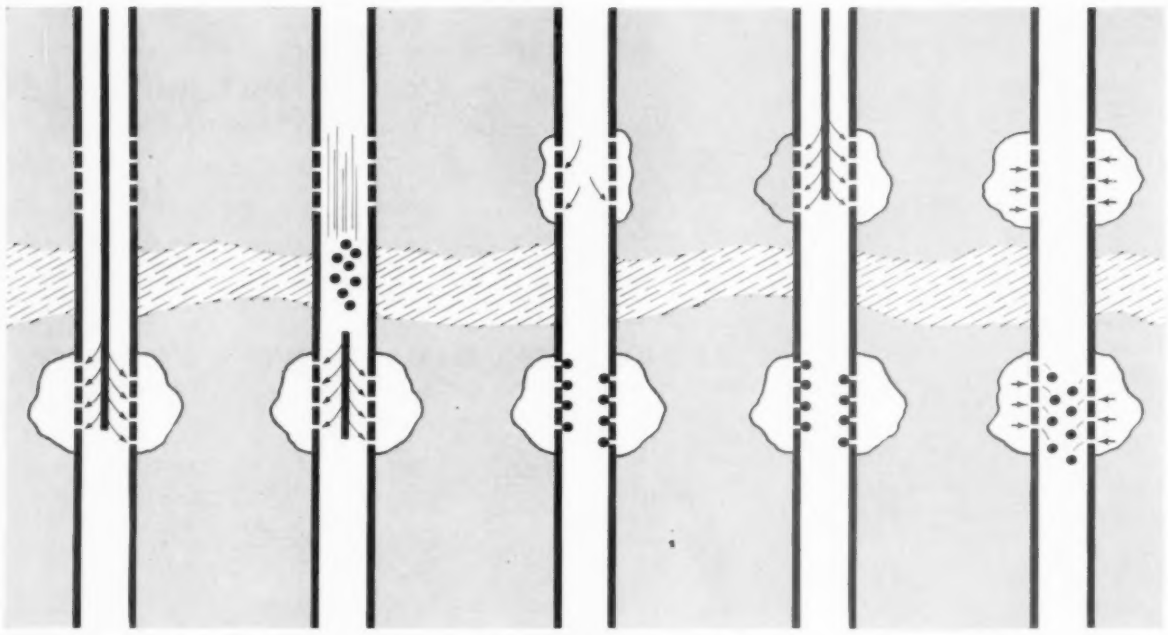

1 Treating fluid enters most permeable zone through perforations.

2 Ball sealers injected into line follow flow of fluid down well.

3 Flow of fluid to permeable zone is blocked as balls seal perforations, and fluid enters upper zone.

4 Upper zone is completely treated while sealers remain in place over lower perforations.

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Rubber Balls Aid in Well Treating

Small rubber balls, only 7/8-in. in diameter, are being introduced to the oil industry in the well-fracturing and acidizing field.

The rubber balls are a part of a new type of well-treatment control, which has been perfected and tested by the research and operations division and the pumping service engineering department of The Western Co., Midland.

An operator, by using the new method to control fracturing and acidizing, now can complete jobs in only one stage that previously were listed as multifracture operations.

The one-stage operation is possible no matter how many sections within a single pay zone are to be treated, and regardless of length of zone or of how many feet separate the perforated intervals.

The new method also can be utilized in wells where there are two separate and distinct pay horizons, and where a dual completion is desired by the operator.

The small spheres in reality are free-floating valves that are used during fracturing and acidizing treatments of both new and old oil and gas producers.

Western's trade name for the new method is Perforation Ball Sealers.

The principle involved is very simple in concept. Rubber balls, designed to rigid specifications, are injected into the treating fluid, ride down the casing in the fluid stream, and seat over perforations opposite the more permeable section of the pay which takes fluid at the lowest pressure.

As the perforations are sealed off temporarily in the more porous zone by the rubber ball sealers, the treating fluid is diverted into the tighter section of the producing formation. This zone is completely treated while the sealers, through pressure, remain in place over the perforations in the more permeable zone.

When the job is finished on the tighter section, the pressure is reversed, and the rubber ball sealers drop to the bottom of the well.

This permits the treating fluid to go into the more permeable zones.

As a result, both intervals in the same pay horizon are effectively treated.

It is contended that this actually results in a bigger potential for the well and in ultimately greater production. This, Western says, is especially true in the one-interval jobs that cover a long section.

The rubber balls that have dropped to the bottom of the well can be left there, or can be recovered easily with a bailer.

Money and time are saved by the new technique.

The new method eliminates expense brought on by drill-out operations, not to mention the saving of the time which would have been required for such an operation.

The method also makes it unnecessary for the operator to rehire expensive service equipment after it has been released from the first stage of fracturing or acidizing.

Experiments with the new process show that on one fracturing job in a West Texas oil field, which used the normal and proven fracture methods, the total cost to the operator was $6,400.

But only a few locations from this job, a well was fractured with the rubber ball process. The well, which was producing from the same formation as the other, and which had approximately the same amount of effective pay, was treated at a cost of only $4,800.

Both were multistage treatments.

Further savings are effected through the elimination of the packers and bridging plugs that had to be used in previous methods of treating.

Most-Logged Test Well

An 800-ft. hole near Houston is used by Schlumberger to check out equipment headed for the field. Only tools that do not touch the well wall are used.

The most logged well in history has never made a barrel of oil or a cubic foot of gas—and never will.

It is a well that was drilled to a total depth of 800 ft. in December, 1945, by Schlumberger Well Surveying Corp., at Houston.

Since its completion the well has been used to test more than 6,500 Schlumberger units.

The well is strictly for checking Schlumberger equipment headed for the field.

All of Schlumberger's equipment was "bench checked" in the days before the test well was drilled. That is, each instrument was checked in the shop. However, after the instrument was completed, many times it was then attached to other pieces of equipment, which involved a lot of wiring.

Such equipment sent to the field without testing under actual bore-hole conditions might well develop failures that would cause expensive delays on the drilling rigs. On occasion, it had been found necessary to "borrow" wells to check equipment. Aside from the inconvenience, they couldn't always find a well to use.

So Schlumberger felt that it needed a well to pre-test all equipment that it would send to the field.

The basic problem in constructing the well was in meeting open-hole conditions.

But open holes have a habit of caving, and Schlumberger engineers wanted a set-up that wouldn't entail drilling a new well every two or three weeks.

The engineers began a search, and came up with a new type of concrete that is unique in that it is very porous but still can be cast into sturdy pipe.

A family near Columbus, Tex., about 70 mi. west of Houston, agreed to hand-make the concrete casing for the test well. Basically, the method consisted of selecting a large amount of carefully graded pebbles and placing them in a special cement slurry. This porous cement pipe was cast in small lengths rather than in long pieces.

The diameter of the successful hole is 18 in. There is 3 in. of space around the outside of the cement casing, and the porous casing itself is 3 in. thick. The inside diameter is 6 in.

The first job was to drill the hole. The engineers had to drill two wells in order to achieve success. The first well caved in between 500 and 600 ft.

A metal plate was placed at the bottom of the successful hole, and 6-in. steel pipe run.

Next, the concrete pipe, after being dipped in starch, was lowered in parts around the steel pipe. Then gravel was poured around the concrete pipe, in the 3-in. open space.

Next, neat cement was poured into the gravel to hold it together. The cement poured into the gravel would have penetrated into the very porous concrete had it not been for the starch which sealed the holes.

After the cement had set, sugar was poured into the hole to remove the starch from the pores of the concrete pipe and restore its porousness.

Both field units and offshore equipment, all of which include several recording instruments, are checked out at the well.

Equipment, such as winches, also is checked.

No explosives are allowed in the test well, and only logging tools that do not touch the well walls are used.

The 800-ft. well has eliminated almost entirely the possibility of equipment reaching the field in faulty condition.

Schlumberger doesn't anticipate making this well any larger or deeper. The firm feels it is still adequate as a checking point for its logging instruments and tools.

There is no comparison between this well and two high-pressure test wells the company uses in coping with extreme depths and high pressures and temperatures.

One of these is designed for 400F maximum operating temperature and 25,000 psi. working pressure and has been hydrostatically tested at 37,500 psi. The other is designed for 400F temperature and 20,000 psi. working pressure and has been tested at 30,000 psi.

Schlumberger is going even farther in this direction. At its new laboratory, now under construction at Houston, facilities are planned that will permit the testing of heat and pressure equal to those found in a 30,000-ft. well. In four test chambers, surveying instruments will be tested at pressures up to 30,000 psi. and temperatures up to 450F.

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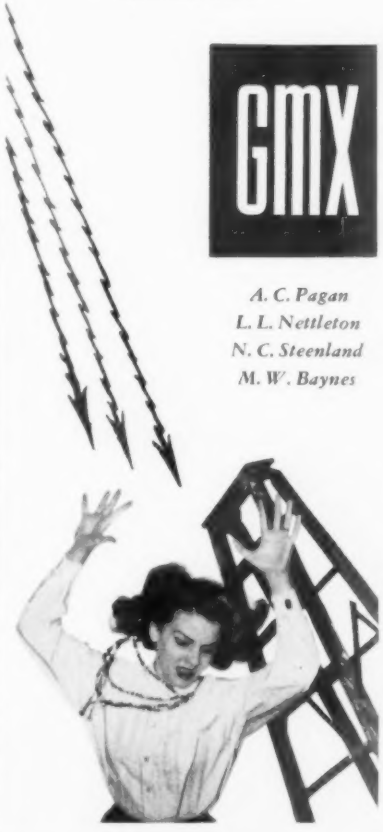


Flameless glycol system gives . . .

Better Gas-Drying Offshore

The California Co. is testing a flameless system for dehydrating glycol used in treating natural gas in the Bay Marchand field, off Lafourche Parish, La. It looks so good that other offshore operators probably will install similar setups.

The glycol is used to absorb water from natural gas before it enters a transmission company's delivery line. In the case of Bay Marchand, contract specifications with Tennessee Gas Transmission Co. call for water concentration to be 7 lb. or less per million cu. ft. of gas.

In order to re-use the glycol, the water it has absorbed must be knocked out. This requires heat. The trouble is, open flame on an offshore producing platform can invite trouble.

This problem can be licked by installing a separate platform for the dehydrating equipment. Calco has used this method on at least one occasion—but the circumstances permitted economical construction of a separate structure in this instance.

Usually, building a platform at least 150 ft. from the nearest producing structure means spending from $100,000 up.

Calco has whipped the open-flame problem through heating elements, which dehydrate the glycol after the glycol has dehydrated the gas.

The gas produced from Calco's nine platforms in the Bay Marchand area flows to a central structure, where the dehydration system is located.

Almost all company operations there, even drilling, are electrified.

In addition to two 500-hp. compressors, powered by 2,300-volt electric motors, the central station contains these components of the dehydration system:

(1) One 42-in. x 15-ft. absorption tower with five "bubble" trays. It's there that the wet gas comes in contact with the glycol drying medium. This "contactor" is rated at 20-million cu. ft. of gas per day at 800 psi. operating pressure.

(2) One 48-in. spherical separator, used as an intake scrubber to prevent liquid hydrocarbons in the gas from carrying over into the absorption tower and contaminating the glycol.

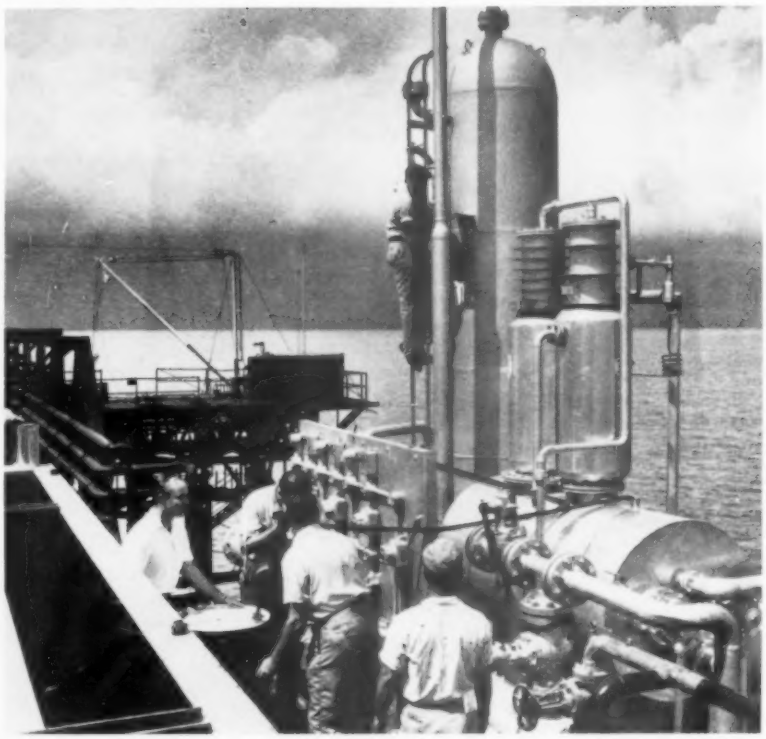
(3) A 36-in. x 5-ft. glycol "regenerator." Equipped with three 50-kw. electric heating elements and an oil skimmer to remove any oil that has gotten into the glycol, this unit is the "something new" in Calco's system. It dehydrates the glycol after the glycol has dehydrated the gas.

(4) One 24-in. x 5-ft. horizontal tank, which serves as a storage and surge tank for the reconcentrated glycol before it goes into the absorption tower.

(5) Four electrically-driven reciprocating duplex single-acting glycol pumps, driven by two 5-hp. electric motors. Rated at 142 gal. per hour, with a stroke length of 4 in. at 76 rpm., the pumps can be regulated to varying capacities by changing the pump stroke.

(6) Two glycol-to-glycol heat exchangers. In this unit, heat is exchanged between the hot "lean" (almost pure) glycol leaving the regenerator and the cooler "rich" (water-containing) glycol from the absorption tower.

(7) A "gas cooler," which utilizes Gulf salt water to cool gas before it hits the dehydrator. This is a type of unit which is coming more and more into offshore use. It consists of a shell, 14 in. x 8 ft x 3¾ in., rated at 1,110 psi. working pressure, surrounding 86 tubes of ¾-in. size.



CALIFORNIA CO.'s engineers put the finishing touches on the company's flameless glycol dehydrating system in the Bay Marchand field of Lafourche Parish, La.

There is some dehydration before the gas reaches the glycol processing, thus reducing the load on the absorption system.

Here's the way it works:

- Wet gas enters the gas cooler and is brought down to 80F. This condenses much of the water. (Care is taken not to cool the gas below 68F at 1,000 psi. to avoid forming hydrates which would restrict the gas flow.)
- The gas flows into the scrubber, which removes all the condensed water and liquid hydrocarbons. Then the gas goes into the bottom of the absorption tower.
- Water-free lean glycol is pumped to the top of the tower, flowing down by gravity in a current counter to the rising gas. As the gas and glycol come into contact at the five bubble trays, the glycol absorbs the remaining water, with most of the absorption taking place on the bottom tray.
- The dry gas flows out the top

and into a glycol cooler installed alongside the absorption tower. Glycol also passes through this heat exchanger before entering the absorption tower. The dry gas serves to cool the glycol and improves its absorption qualities.

The dry gas then is ready for the TGT line.

Much of the gas being produced is being recycled for gas lift operations. But the company expects to begin delivering about 6-million cu. ft. per day soon into TGT's newly completed Muskrat line across the marshes of South Louisiana.

In regeneration of the glycol, some 10% of the water is removed, restoring the glycol to its 98½% purity.

Lean, cool glycol leaves the storage and surge tank and is driven through the glycol cooler vessel and into the absorption tower

The water-containing rich glycol gathers at the bottom of the tower, where any foreign material is filtered out.

It then moves into the heat exchanger, where lean glycol from the regenerator preheats the rich glycol.

The rich glycol then enters a skimmer for removal of any liquid hydrocarbons and collects in the horizontal regenerator or dehydrator vessel. The electric heating elements bring the glycol up to 375F and boil off the water, reducing the water content to 1½% or less.

Again in the form of lean glycol, the substance leaves the regenerator at a temperature of 375F, passing through the heat exchanger, where it heats incoming rich glycol and is itself reduced in temperature. It then goes back into the storage and surge tank.

The Bay Marchand project is the second such set-up for Calco. A similar unit was installed earlier, in Main Pass Block 69. However, the heat there was furnished by exhaust from a compressor unit, with a standby electric heating unit.

Calco has seven well structures at Block 69. Three of these contain compressor installations, and each of the three serves one high-pressure gas well (in the neighborhood of 2,100 psi.) and five oil wells.

All gas flows to the third platform, on which is located a glycol dehydration unit in addition to the compressor installation.

In general, the system is similar to the Bay Marchand set-up. But in Block 69 all units are fueled by natural gas and there are several other differences:

- To eliminate the flame in the glycol regeneration process, the exhaust from a 165-hp., 4-cycle compressor on the central platform is used. The exhaust is capable of delivering temperatures as high as 900F.
- Gas from the gas wells is stepped down from 2,100 psi. to 800 psi. with the use of a modified low-temperature separator. This cooled gas then is used to cool down the high-temperature gas from the oil wells after it passes through the compressor.
- The gas is partially dehydrated before entering the absorption tower by passing through this low temperature separator.

The absorption tower is rated at about 26-million cu. ft. of gas per day at 800 psi.

Gas from this field is delivered to Southern Natural Gas Co.

Where commercial electricity is not available—as in Block 69—a gas-fueled generator is highly practical. This is the kind of assembly that may well become common offshore.

The compressor-exhaust system is practical and cheap. Where feasible, it will probably appeal to other offshore operators as it did to Calco.

There is no other electrified offshore field comparable to Bay Marchand.

The system appears to be virtually fool proof.

All the way through the whole production and processing operation there exists a complete automatic shutoff system. Thus, the safety set-up is designed to prevent inadvertent damage.

a reputation of integrity
skill and dependability...

What's New / IN EXPLORATION, DRILLING, PRODUCTION

Enriched-Gas Injection Approved For Two Fields

The Texas Railroad Commission has given the green light to Humble Oil & Refining Co. for injection of enriched "condensing" gas into the Bronte and Seeligson fields (PW—Jul.13'56,p14).

The theory behind the new technique is that the enriched gas, containing such lighter ends as ethane, propane, and butane, will dissolve in the oil and thus result in greater recovery of the oil in the reservoir.

The recovery of oil under this method is figured in the range of 60% to 100% of the oil originally in place. Humble expects to recover 475% more oil at Seeligson than could be expected under primary methods (PW—Aug.10'56,p16).

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Los Nietos Dissolved

Los Nietos Co. has been voluntarily dissolved and all of its assets and liabilities have been taken over by Union Oil Co.

Los Nietos has been a wholly-owned subsidiary of Union since October, 1949. But its history goes back more than 50 years in California's oil development.

Los Nietos (Spanish for grandchildren) was formed by the late Edward L. Doheny for the benefit of his five grandchildren. In 1949, long after Doheny's death, Union bought the company for $22.4-million and 600,000 shares of Union stock. At that time, Los Nietos' production was 7,500 b/d. Today, it averages 11,800 b/d.

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Acreage to Be Offered

More than 11,600 acres of land in North Dakota will be offered for lease by the Bank of North Dakota at an auction in Bismarck, Sept. 26.

The bank acts as agent for the state treasurer, who controls state-acquired lands as trustee.

The current offering includes 112 tracts, with the majority, 58 tracts, in Burke County, generally north of the Nesson anticline. Williams County acreage accounts for 34 tracts. The other acreage is in Grand Forks, Logan, McHenry, McKenzie, Rolette, Mountrail, Ward, and Bowman Counties. The tracts range in size from 8 to 400 mineral acres.

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The Navy has withdrawn its request for a restricted air area over portions of Kern and San Luis Obispo Counties (PW—Aug.31'56,p18).

The original request embraced more than half of the Midway-Sunset oil field, busiest in California last year, and thousands of acres of potentially oil-productive land.

Navy's decision to withdraw its request for the restricted area for bombing, strafing, and rocket-firing practice came after strong protests were received from oil companies with production and leases in the affected area.

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A torsion-balance instrument for measuring gravitational changes within the earth has been presented to Lehigh University, Bethlehem, Pa., by Atlantic Refining Co.

The instrument, built in Budapest, Hungary, before World War II, will be used by the university's engineering department in performing laboratory experiments or field demonstrations concerning the earth's gravitational field.

One of the first instruments applied to geophysical prospecting, the torsion balance is credited with finding the Nash Dome on the lower Texas Gulf Coast. A well drilled there in 1926 became the first geophysical discovery in North America.

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Rapid development in the Pierce Junction field on the outskirts of Houston has brought a reduction from 140 to 91 b/d in the per-well allowable (PW—Aug.3'56,p14).

The field, discovered in 1920 and now enjoying its third boom, is adding approximately 35 oil wells per month.

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California's offshore oil workers are the target of labor organizers.

The United Mine Workers Union has begun circulating petitions among the approximately 240 men who man ten exploration vessels off the coast of California, calling for a National Labor Relations Board representation election.

The Sailors Union of the Pacific has established an office in Santa Barbara, headquarters for the offshore fleet, to organize the sea-going oil explorers. Other unions have also indicated interest in organizing the men.

With offshore exploration showing signs of growing pains in California, the number of exploration vessels and men manning them is expected to double within the next year.

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First international geological symposium on the Williston Basin will be held at Bismarck, N. D., Oct. 9-12.

Sponsored by the North Dakota and Saskatchewan Geological Societies, the meeting will afford an opportunity for exchange of geological ideas on the Williston Basin, which straddles the U.S.-Canada line. The basin extends into Saskatchewan, Manitoba, Montana, South Dakota, and North Dakota.

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Drilling Highlights

Canada—Two discoveries have been registered in Canada.

Cities Service Oil Co. has a significant Cardium discovery in Alberta at No. 21-16 Keystone, section 21-48-r4-w5, which rated a potential of 472 b/d through perforations at 4,296-340 ft. The discovery is 12 mi. east of the Pembina field.

The second discovery is indicated at Sinclair Canada Oil Co., subsidiary of Sinclair Oil & Gas Co., at No. 1 C&E Dahl, which yielded oil from the Cretaceous on 2½-hour drillstem test at 5,467-528 ft. Recovery was 5,060 ft. of 43.3-gravity oil and 390 ft. of oil and gas-cut mud. It is 65 mi. south of Calgary.

Montana—At least four exploratory wells will result from two farmout deals.

Rex. H. Baker, Billings, and New Drilling Co., Denver, have jointly taken farmouts from Gulf Oil Corp. and Argo Oil Co. in Rosebud and Yellowstone Counties.

The partnership will earn an undisclosed interest in 2,000 acres farmed out by Gulf in return for three wells in Rosebud County. Argo farmed out 800 acres 7 mi. west of the Wolf

Springs field in Yellowstone County for one test.

West Texas—Stanolind Oil & Gas Co. will drill a 17,000-ft. wildcat in Pecos County on its 3,840-acre block acquired for $4¼-million at the recent sale of leases on University of Texas land. The test will be No. 1-GS University, section 27, block 23, University Land survey.

Utah—Fifth discovery was assured for Shell Oil Co. in the Paradox Basin of San Juan County.

Shell's No. 1 Desert Unit, section 12-41s-23e, flowed at the rate of 1,440 b/d. and 9½-million cu. ft. of gas at 5,578-98 ft.

Oklahoma—Flow of 262 bbl. of 37.5-gravity oil in 12 hours through ½-in. choke has been reported from the basal Bromide (Ordovician) at Sinclair Oil & Gas Co. and Cities Service Oil Co. No. 1 Susie, section 1-6n-13w, discovery in Caddo County. Production was through perforations at 8,902-07 ft. The well indicated production from four zones.

Wyoming—Deeper pay zone has been uncovered in the East Salt Creek field by Sinclair Oil & Gas Co.

Its No. 8 East Salt Creek Unit flowed an unestimated amount of 32-gravity oil on drillstem test of the Tensleep formation at 7,551-81 ft. This is 1,400 ft. below the older producing horizons in the area, Lakota and Second Wall Creek. Sinclair has a 51% interest in the well. The balance is shared by Keniland Oil & Gas Co. and Isbrandtsen Co.

California—Shell Oil Co.'s concentration on the Strand-Ten Section area in Kern County has paid off with another oil discovery. Its No. 34-17 Kern County Land Co., section 17-30s-26e, ½ mi. south of the East Strand field and 1½ mi. north of the Ten Section field, was completed for 600 b/d of 29-gravity oil at 9,242-69 ft. from the Stevens sand (Miocene). The discovery is Shell's fourth in the area since June, 1955.

South Texas—Lone Star Producing Co. has an Edwards lime gas-distillate discovery in Atascosa County, 50 mi. southeast of San Antonio.

Through perforations at intervals from 10,790-850 ft., the well flowed gas at the rate of 5,058,000 cu. ft. per day on ¼-in. choke. Distillate production was at the rate of 23¾ bbl. per million cu. ft. of gas. The well previously had flowed gas-distillate through perforations at 10,420-30 ft., which were squeezed off.

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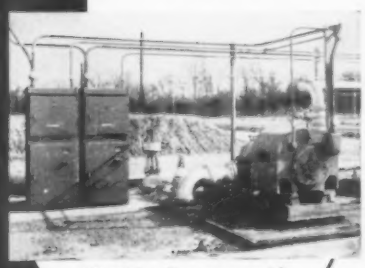

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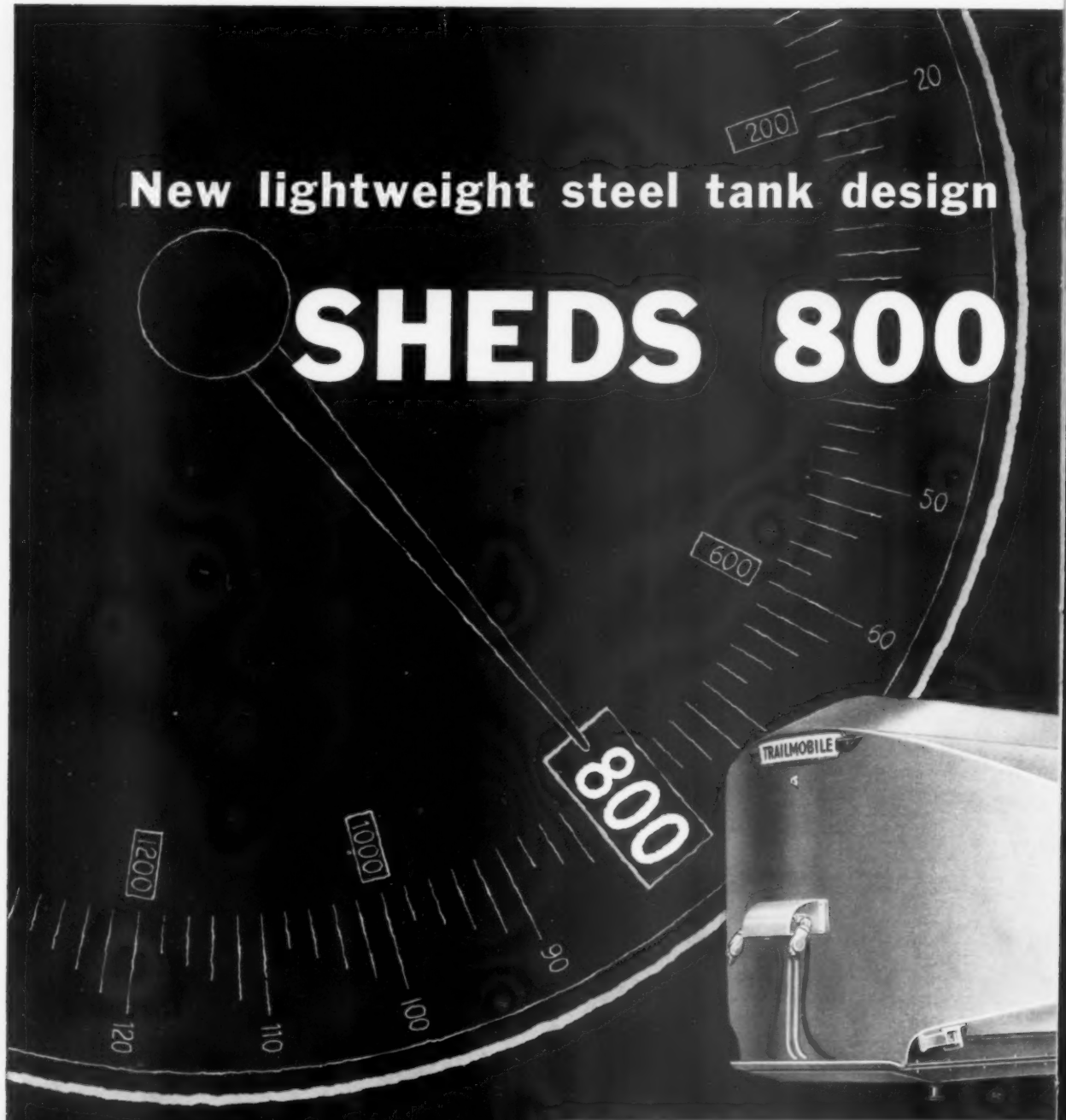

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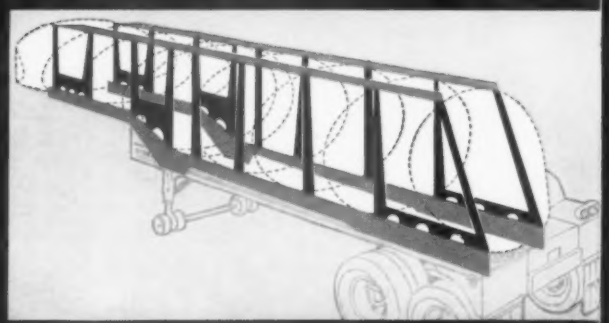

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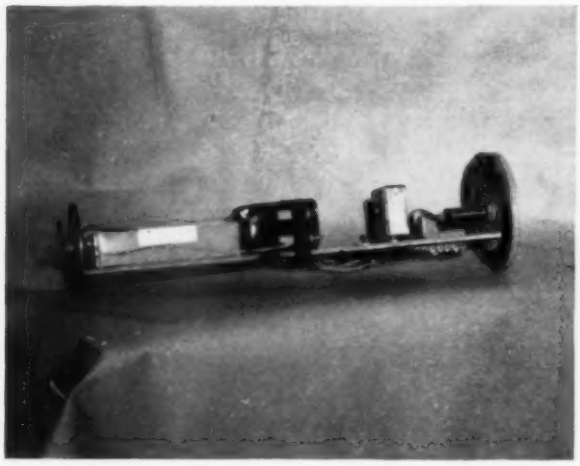

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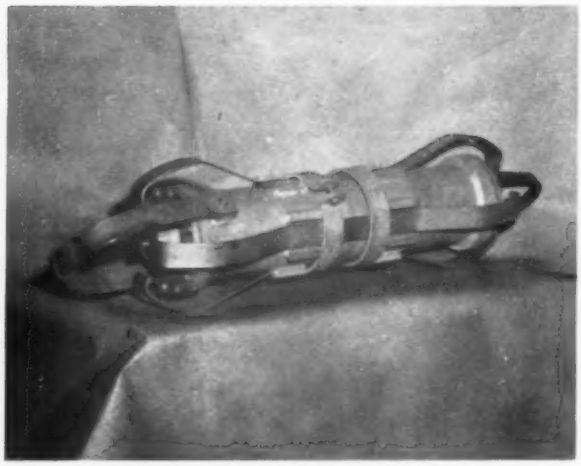

SPECIAL CASING for trip through a pipe line. It's a . . .

New Way to Check Submerged Lines

Great Lakes Pipe Line Co. has worked out a low-budget program to insure protection of its pipeline river crossings.

Great Lakes has six product lines under the Missouri River at Kansas City, Mo., and another four under the same river at Decatur, Neb. The lines range in size from 8 in. to 12 in. They were all buried below the river bed when they were first installed.

The Missouri, however, like many streams, has a silty bottom, which behaves erratically under the impact of constantly-changing currents.

In silty-bottom rivers, shifts in the force or direction of currents can wash the river bed away from the top of a pipeline. And a line thus exposed is subject to serious damage.

For one thing, the action of moving water sets up dangerous vibrations in an exposed line. And the swirling silt relentlessly scours the pipe's coating, eventually abrading the pipe itself.

A few years ago, for example, the main current of the Missouri, in the Kansas City area, shifted from the south to the north side of the stream. While the company remained unaware of what was happening, the current washed away the river-bed cover that was over two 12-in. lines.

The result was that one broke, pouring hundreds of barrels of product into the river. Great Lakes lost product, plus the service of its line. And the company had to pay for a new line as well. But perhaps the biggest headache was the public relations problem created when some of the runaway gasoline got into the city's drinking water. The filters couldn't cope with gasoline.

Great Lakes resolved to do all in its power to avoid such accidents in the future.

For five years, Great Lakes has been watching its river crossings with a sonic depth-finder.

The device (a Bendix Fathometer) is operated from a small boat. It sends impulses to the bottom of the stream bed and measures the time it takes for them to bounce back.

This gives a depth profile of the bed itself—and it sometimes reveals an already exposed line. But it didn't catch the trouble spot at Kansas City. Great Lakes, furthermore, wanted to work out some way of keeping watch on the lines while they were still buried.

The company considered use of a complicated device that combines use of a gyroscope, camera, and other expensive instruments, which is put through the line. This could give a depth profile of the pipe, plus a plot of any horizontal deviations from the line's original course. These findings could then be correlated with the river-bed profile—and the depth of pipeline cover determined.

The line-plotting device, however, is neither for sale nor for rent. Anyone wanting a line profile must buy that service from the company that makes the device. For a long-range program, Great Lakes felt this service would be much too expensive. Besides, the device can't be used in lines of less than 12-in. diameter.

To obtain pipeline profiles, for comparison with profiles of the river bottom, Great Lakes adapted a simple pressure-gauge called the Vibrotron (pictures).

The Vibrotron was developed by Southwest Research Institute (and purchased by Great Lakes through Byron-Jackson Co.'s electronics division at Pasadena, Calif.).

Heart of the unit is a small wire that vibrates in a magnetic field. The wire is fixed at one end and connected to a diaphragm at the other.

As pressure on the diaphragm increases, tension on the wire decreases, and it vibrates at a slower rate. These vibrations, converted to electronic impulses in the magnetic field, are relayed by cable to an electronic frequency meter. A chart gives the relationship between frequency and pressure. Readings from 0 to 2,000 psi. may be obtained.

At the Great Lakes lab, a runner-equipped casing was devised to protect this instrument for trips through a pipeline. The diaphragm is left exposed at one end.

By measuring the tow cable as the Vibrotron is pulled through a line—and by converting pressure readings into depth readings—Great Lakes proved it could plot a depth profile of any of its pipelines. These profiles can be compared with findings of the Fathometer, to determine how deep the lines are buried beneath the river bed (horizontal location of the lines is determined by probing).

The line must be shut down while

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the job's being done, so that the Vibrotron's readings can be obtained in still liquid. But Great Lakes considers the system satisfactory—and thousands of dollars cheaper than use of the gyroscope-camera combination.

The company figures its line-protection system, plus a refinement still being developed, would cost any company with similar river-crossing problems a maximum of $15,000.

This includes the depth-finder, boat, Vibrotron, casing, tow cable, frequency meter, and several motion-sensing devices that can keep a constant watch on line crossings—just in case a line does become exposed suddenly and starts to vibrate between checkup periods.

So far, however, motion-sensing instruments to supplement the depth-finder-Vibrotron combination may have to be reserved for new lines.

Great Lakes has been modifying a device that consists basically of a pendulum suspended in a magnetic field. A string of these instruments is pulled into a submerged line, placed in contact with the pipe wall, and left there. If, any time, a pendulum picks up vibrations, they're relayed to a meter on shore.

These instruments, however, are still too big to suit Great Lakes (at present, each is about the size of a cigar). They interfere with the flow of product. Furthermore, they must be pulled out again whenever the company has to clean a line.

What's New / IN TRANSPORTATION

J. M. Carras, New York tanker owner, is the first to get a tanker-construction mortgage that's fully guaranteed by the government.

Carras has ordered a 25,000-ton tanker from Bethlehem Steel Co., to be built at Bethlehem's Sparrows Point (Md.) shipyard at a cost of about $8-million.

The Maritime Administration announced last week that it will guarantee the entire mortgage—not to exceed 87½% of total construction costs.

Prior to a new provision made this year, the government would guarantee only 90% of such mortgages.

•

Panhandle Eastern Pipe Line Co. is getting a rapid tax writeoff permit for 25% of the cost of new gas facilities on its Texas-to-Michigan transmission system. The project, costing about $8.4-million, includes 134 mi. of new 4-in. to 16-in. laterals, and expansion of three compressor stations.

•

Ship-transfer deals approved last week will add two new tankers and subtract three old ones from the U. S. oil-carrying fleet.

The Maritime Administration authorized a corporation headed by Samuel Wang to transfer two T-2 tankers to foreign flag, in return for which the company will build a 32,600-ton tanker in a U. S. yard. Maritime also authorized a new firm, Red Hills Corp., to transfer two Liberties in return for construction of a 20,500-ton tanker.

Later, Maritime approved transfer of a Liberty by Long Island Tankers Corp., for which the firm will convert a T-2 tanker into an ore carrier.

•

For-hire tank truckers carried more petroleum liquids in the second quarter of 1956 than they did in the corresponding period of 1955, according to an announcement by American Trucking Assns.

The group listed an 11% increase—18,330,415 tons this year compared with 16,497,298 tons last year.

•

Great Britain wants the U. S., Liberia, and Panama to prohibit their tankers from dumping waste oil into the Atlantic within an area outlined at a 1954 international convention.

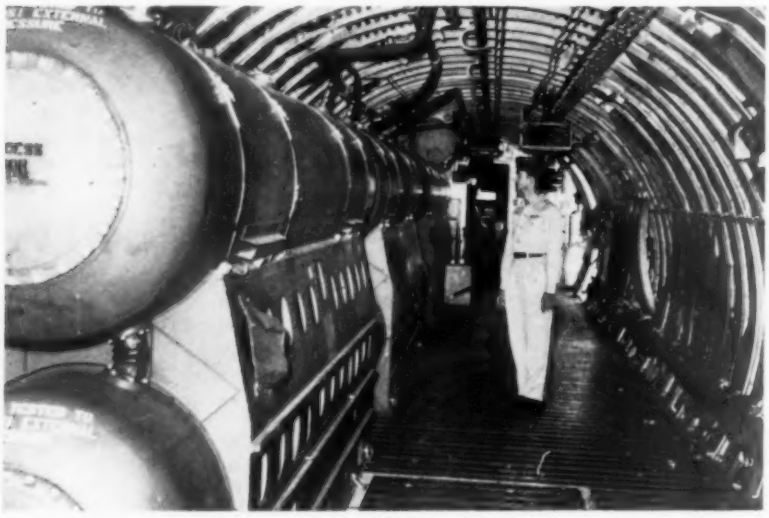
The area extends to more than 1,000 mi. from the British coast at some points.

Pursuant to a British law enacted last year, British tankers are forbidden to discharge oil waste within the area starting this week.

The U. S., Liberia, and Panama have not ratified the agreements drawn up at the 1954 convention. But a British spokesman called upon these governments last week to prohibit oil dumping in accordance with pollution conclusions reached at the convention.

•

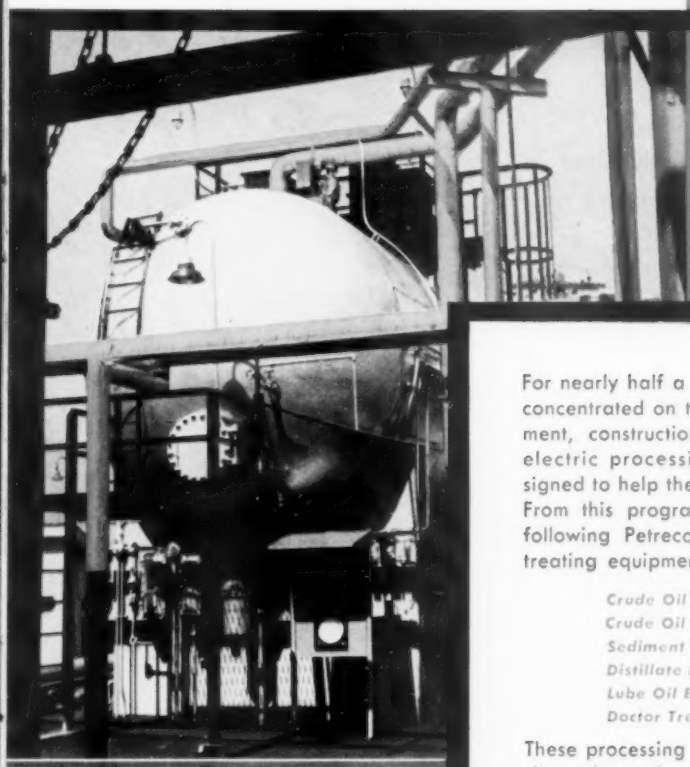
The province of Saskatchewan, Canada, is getting a $3.2-million steel pipe plant. Prairie Pipe Manufacturing Co. began construction of the plant last week in Regina. It is designed to produce 75,000 tons a year of 3½-in. to 16-in. (outside diameter) pipe, starting next April, for oil and gas transmission. The cold form process will be used in making the pipe.

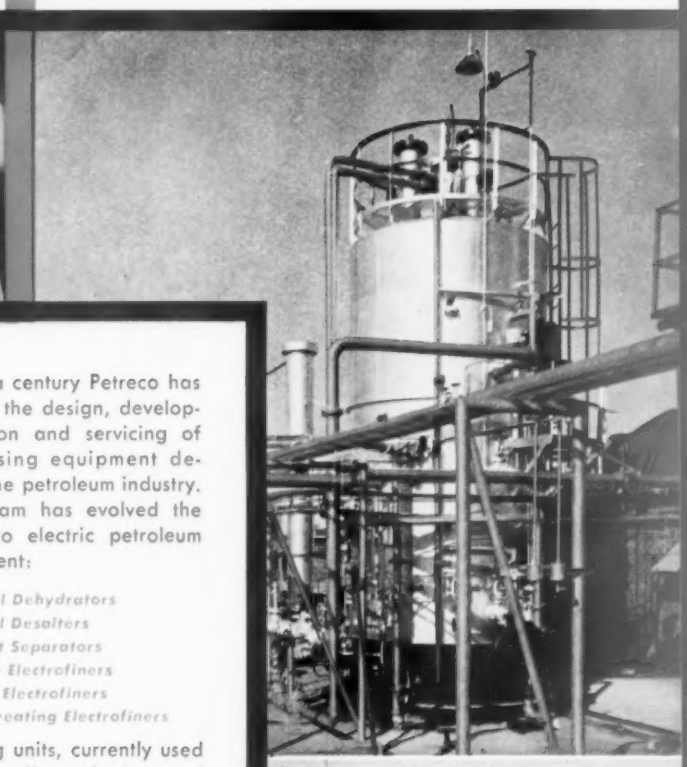


This is a Tanker, Too — but it Flies

When it comes to interiors, the Air Force's KC-97 looks unlike any other plane. That's because it's a flying tanker. This craft, operated by the 100th Air Refueling Squadron at Portsmouth, N. H., takes jet fuel aloft for delivery to B-47 bombers. Presence of officer gives an idea of the tank's size.

PETRECO





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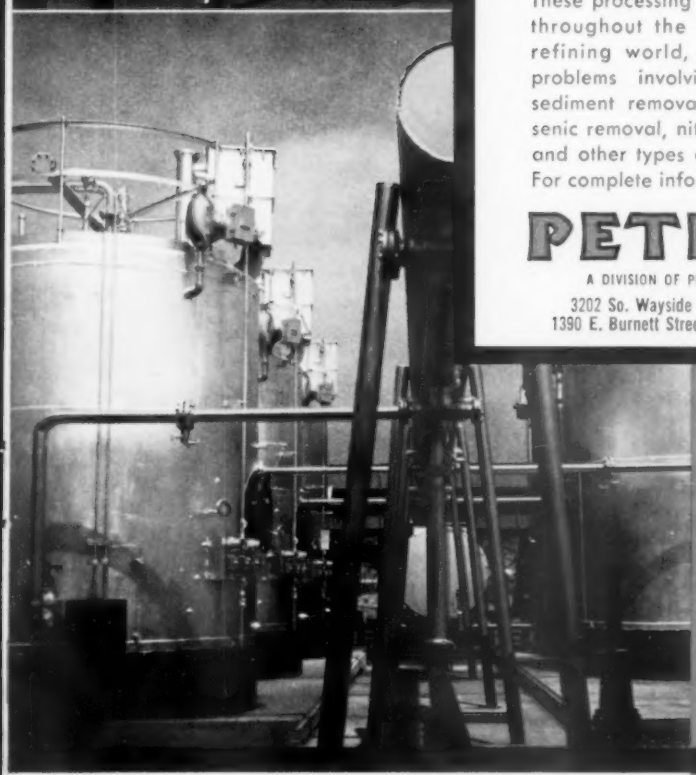

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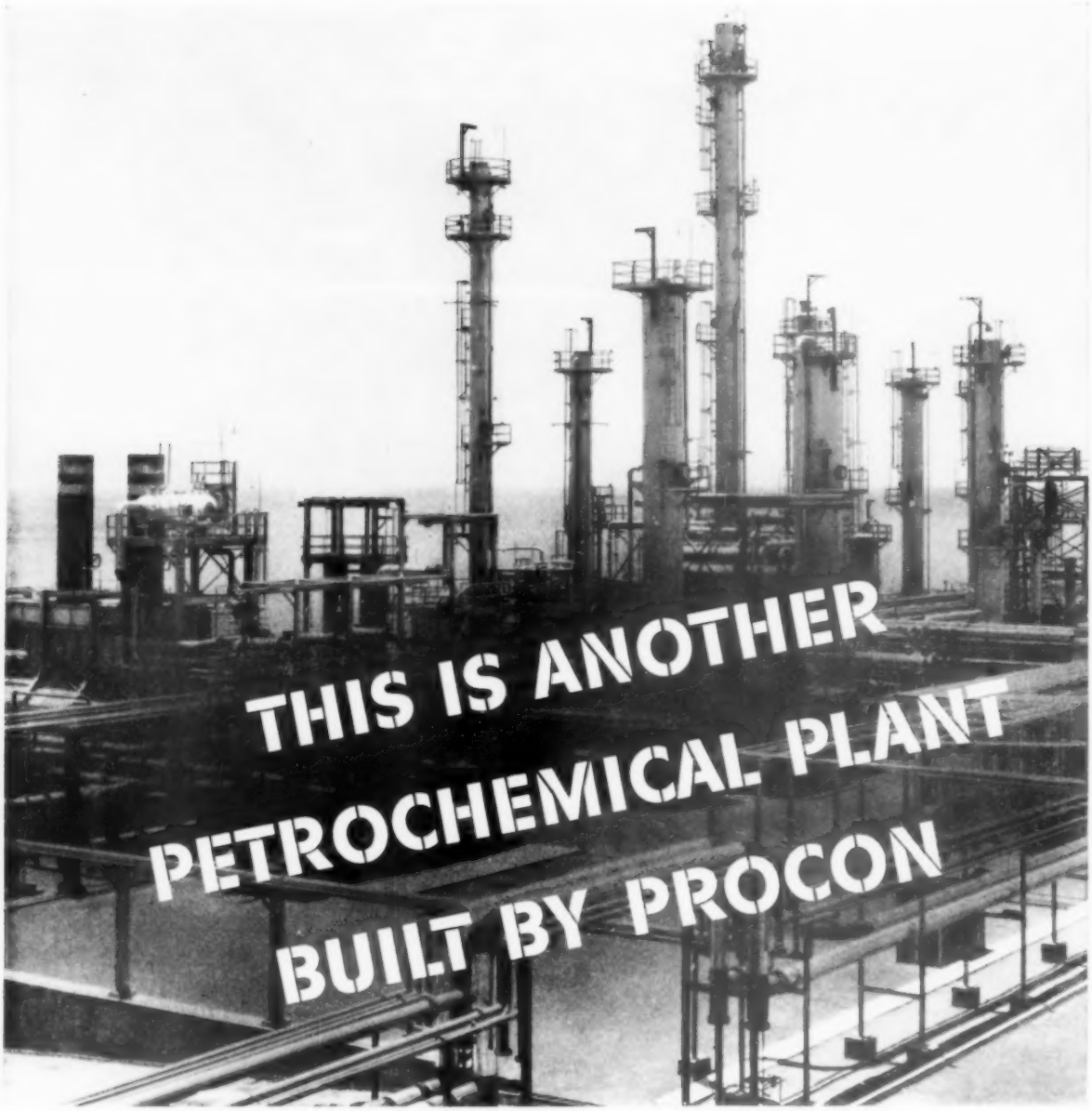

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JOHN McFARLAND, manager of Sun Oil Co.'s tax department. Each year . . .

He Files 7,000 Tax Returns

There's been a lot of talk in recent years about oil's share of the national tax load. One man who really knows is John McFarland, manager of Sun Oil Co.'s tax department.

When McFarland joined Sunoco, on Sept. 1, 1928, he was the only member of the company's tax department. His job: "to work order out of chaos and get income taxes moving towards settlement." (Some of the problems dated back to 1917-18.)

McFarland, a New York business-college graduate and a certified public accountant, came to Sun with a six-year backlog of experience on the company's tax problems. He had picked up this experience as a member of Mattison & Davy, an accounting firm specializing in oil accounting. (When he was with this firm, McFarland also handled the tax accounts for Pure Oil Co. and the old Tide Water Oil Co.)

McFarland soon discovered that adjusting income tax arguments with the federal government was largely a matter of organization and negotiation. He began developing a staff, which grew as taxes became more numerous and complex. Now he heads up a two-city staff of 34—20 at Philadelphia headquarters and 14 in Dallas.

Right now, McFarland's staff is working on percentage-depletion forms that will support the company's 1955 federal tax returns.

Filing depletion forms—they're due by Dec. 31—is a job handled in the second half of the year. Despite its importance, however, this filing keeps taking a back seat until due-date work is cleared away.

Here's an idea of the immensity of the task facing the staff on depletion alone: Depletion forms filed for the Dallas Division last Dec. 31 numbered 681 pages. The forms for Sun's six subsidiaries totaled 868 pages.

The depletion forms are among more than 7,000 tax returns Sun will file this year.

This total—which is made up of 41 different kinds of returns—covers for the parent company and its six subsidiaries.

Last year the company collected from customers gasoline and oil taxes totaling $132,701,000. A total of $17,036,000 was deducted by payroll departments from the paychecks of 21,600 employees. This tax total includes 114 different wage taxes.

"I only coordinate the whole thing and keep it moving," McFarland says.

Other taxes McFarland helps "keep moving" include income taxes to cities, states, and the federal government; taxes on capital stock, issuance of shares, property, transfer of securities, and truck mileage; excise, common carrier, tank car, motor carrier, franchise and mercantile taxes; and unemployment insurance and license fees.

And every time Sun enters a new state, at least four or five new taxes are added to the accounting maze.

With so many taxes having to be paid, it's small wonder that about 20 different tax crises crop up during the average week.

Real property taxes, McFarland notes are daily problems.

"We're always scrapping with tax men in New York City on that problem," he adds.

The corporate income tax, the square-jawed McFarland says, "isn't much trouble—just expensive." Taxes collected from customers aren't too much trouble either. These are deposited to the federal government's account at the Philadelphia National Bank; state gasoline taxes are mailed to 19 states and the District of Columbia.

The biggest headaches in his department come when a large city, like Pittsburgh, for instance, levies a wage tax that also is adopted by surrounding communities. In the Pittsburgh case, 42 such towns and hamlets imposed wage taxes—and it's Sun's job to file returns in each community where a Sun employee lives.

McFarland has aided the federal government in rewriting the revenue code. He's also assisted the petroleum industry and national tax and accounting groups with his know-how.

Rep. Daniel A. Reed (R., N. Y.), chairman of the House Ways & Means Committee in 1953, called on McFarland at that time to help his committee rewrite the revenue code.

The letter of invitation and Reed's later letter of appreciation are framed and hung over McFarland's desk. (The desk, incidentally, is always kept free of anything that might clutter it. As for the telephone, McFarland wryly comments that "telephones are the worst time consumers in business.")

McFarland has also served on the financial committee of the American Petroleum Institute. He is national chairman of the Federal Income Tax Committee of the Controllers Institute. He has been national chairman of the State & Local Tax Committee of the same group.

McFarland was born in Brooklyn, and married a Brooklyn girl in 1924. He and his wife settled in Drexel Hill, a Philadelphia suburb, but both remain avid Dodger baseball fans.

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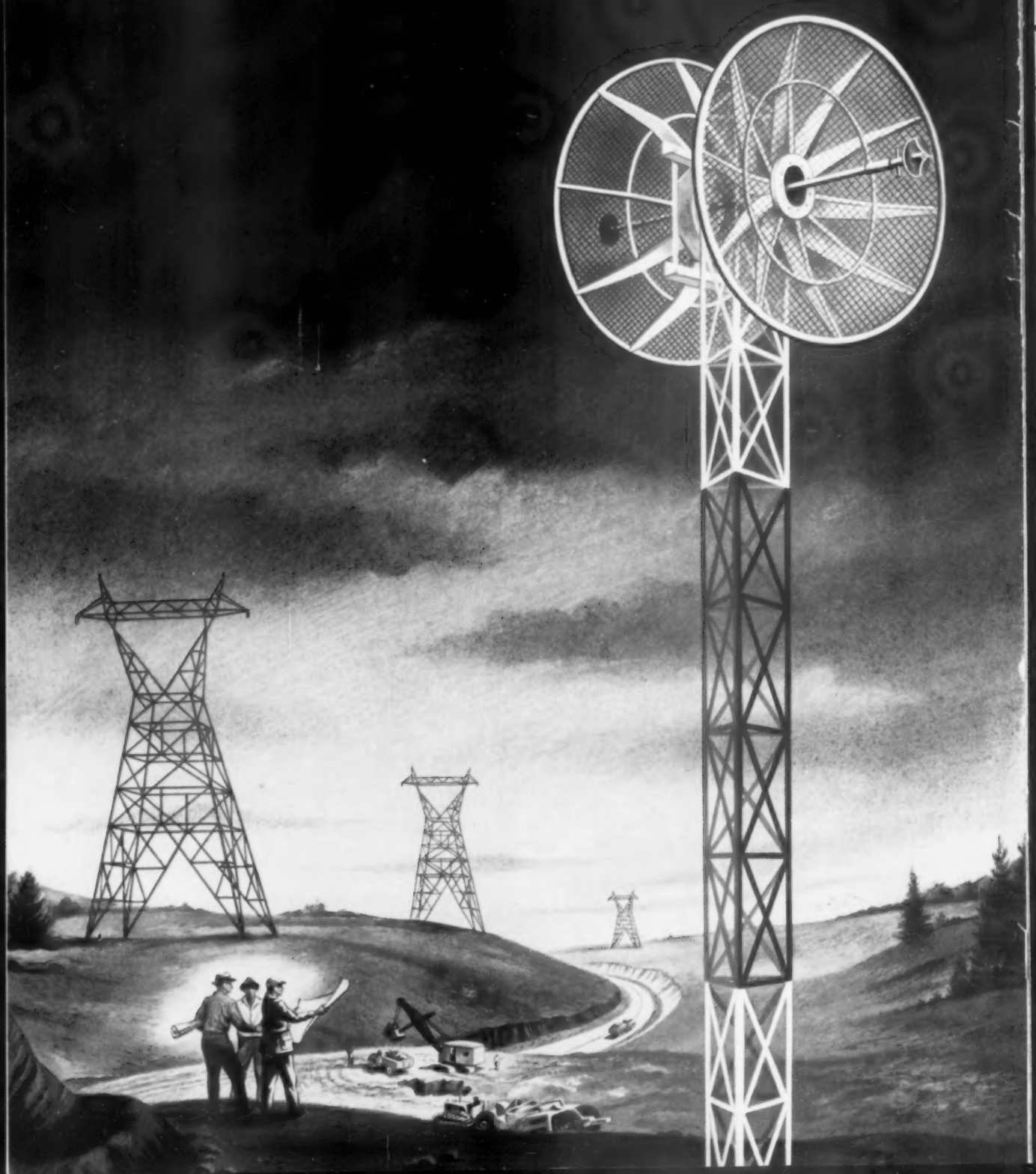

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Military Needs More Jet Fuel Types

Refiners, already hard-pressed to meet some of the specifications of present jet fuels, will have to make an increasing number of special hydrocarbon fuels to satisfy the military needs of the future.

Such requirements were spelled out for the industry by two military spokesmen in Atlantic City this week at the annual meeting of the National Petroleum Assn.

A long look into the military needs for present and future fuels for turbojet, ramjet, and rocket aircraft was given by Ben F. Wilkes, of the aeronautics division of research and development of the U. S. Air Force (table).

The Navy's special requirements of hard-to-supply JP-5 jet fuel were presented by Charles J. Singleterry, of the Navy's Bureau of Aeronautics.

Essentially, the military needs are for fuels with the greatest energy in the smallest "package," which still meet the acceptable standards of thermal stability, availability, and price.

The military does not expect to need a different fuel for each weapon system, according to Wilkes. But a few special fuels will be required, he says, which means that there will probably be as many grades of jet fuel in the foreseeable future as there now are of gasoline.

Within the basic acceptable standards of jet fuels, the greatest emphasis is needed on fuels with more Btu. per pound.

"The gains obtained from more energy per pound of fuel . . . are different with each weapon system," according to Wilkes. "In every case," he says, fuel with higher Btu. per pound "will increase range, speed, or altitude, and in almost direct proportion to the increase in Btu. per pounds.

"For example, if we could get a fuel with the density of JP-4 and with 50%, or 9,000 more Btu. per pound, we could—with a representative weapon system—do any one or a combination of: (1) fly at 60,000 ft. instead of 40,000 ft.; (2) go 5,000 nautical mi. instead of 3,500 mi.; (3) fly six hours instead of four hours; and (4) fly at Mach 3.0 instead of 2.5."

As more supersonic jet engines come into use by the military, many of the present fuels will be abandoned. But the military will use hydrocarbon fuels—even for missiles—for a long time, regardless of the introduction of special "chemical" fuels.

JP-1 (—76F freezing-point kerosine) and JP-3 (high—5 lb. to 7 lb.—vapor pressure, wide cut) are rapidly being abandoned by military forces. JP-1 is now required only by some NATO aircraft engines. Only one Navy engine still requires JP-3, and it is expected to be abandoned by 1960, or even earlier.

Also, commercial jet engine developments indicate that demand there for JP-1 and JP-3 will diminish.

Those fuels are being replaced by JP-4 (a —76F freeze-point, wide-cut gasoline) and JP-5 (a high—140F—flash kerosine) for carrier-based craft.

Also JP-6, a low (—76F) freeze-point, wide-boiling-range kerosine fuel, may eventually replace JP-4.

Refiners would prefer limiting jet fuels to one gasoline type and one kerosine type to satisfy both military and commercial needs.

"If everyone concerned would take a realistic, objective approach to problems of supplying jet fuels, it might be possible to satisfy virtually all needs in subsonic and supersonic aircraft with two types of fuel," says H. A. Murray, assistant manager of aviation sales of California Texas Oil Co.

The two required types, according to Murray, would be a fuel similar to the present JP-4 and one with characteristics close to the present kerosine-type jet fuel, known as DERD-2482. The latter is already widely used for military and commercial turbine-powered planes outside the U.S.

Freezing point of the DERD-2482 fuel, now —40F, is the only important requirement that may have to be revised, Murray predicts.

He admits, though, that if a large demand should develop for a low-freeze-point kerosine fuel, it may be necessary to shift to a JP-4 type.

The big problem to refiners in meeting jet fuel requirements is a squeeze on yields as specifications are tightened.

Refiners generally say that, considering both performance requirements and availability, the most desirable jet fuel is a 250F-400F boiling-range naphtha cut—the heart-cut of the present JP-4 (PW—Jun.1'56,p32).

Such a fuel will constitute the bulk of the Air Force's requirements for many years, according to Wilkes.

The Navy, however, will require a kerosine-type jet fuel for carrier operations. Already a revision in one requirement, dropping the freeze point from —40F to —55F, results in such a freeze-flash point relationship as to reduce greatly the available supply of JP-5, according to Caltex's Murray.

The lowering of kerosine jet fuel freeze points, hits yields because jet fuels in the kerosine boiling range can only be made by crude oil distillation followed by chemical treatment.

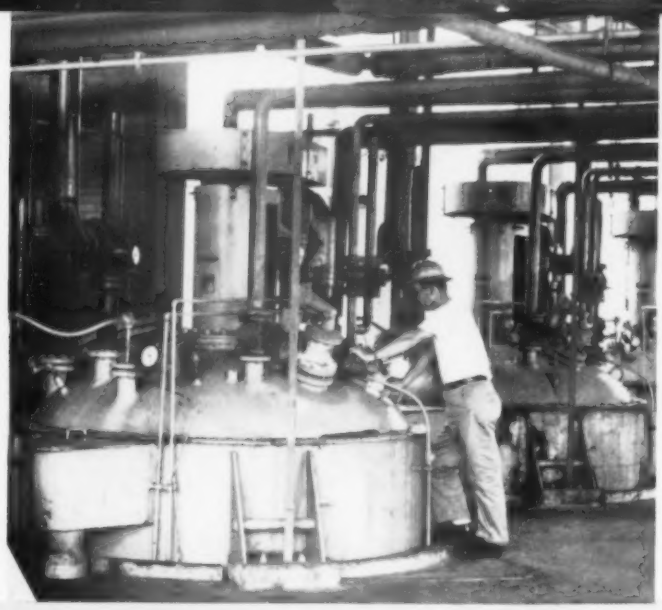
Processing facilities to reduce the freezing point of kerosine fuels are not generally available. Solvent dewaxing processes have been tested for this purpose, but the results so far are uncertain, according to H. R. Porter, of Standard of California's product engineering department.

Jet, Rocket Fuels — Today and Tomorrow

Grade	Type	API Gravity	Distillation Range	Speed Range*
JP-4	Wide-cut gasoline	45-57	200F-550F	Up to Mach 1.5
JP-5	High-flash kerosine (Aircraft carrier)	36-48	350F-550F	Up to Mach 3.0
JP-6	Wide-cut kerosine	40-50	250F-550F	Mach 1.5 to 2.0
JP-7	Kerosine	36-48	350F-550F	Mach 2.0 to 3.0
JP-7	Very low volatility distillate	32-38	400F-600F	Mach 3.0 up
RP-? / RJ-?	Several special cuts distillate	Narrow, within 30-40	Narrow, within 300F-600F	Up to Mach ?

*Mach 1 is the speed of sound.

1 Butadiene and styrene for making GR-S type rubber are shipped to the Institute (W. Va.) plant from Texas.



2 Raw materials are polymerized with a catalyst in these glass-lined reactors. Polymerization occurs at 122F.

Institute Plant Boosts GR-S Output

Goodrich-Gulf Chemicals, Inc., is betting $17 million that the basic GR-S type synthetic rubber will continue to be the mainstay of the rubber industry, running ahead of natural rubber and competing with the growing number of "synthetic natural" elastomers (PW—May4'56,p39).

The company, jointly-owned by B. F. Goodrich Co. and Gulf Oil Corp., is nearing completion of engineering plans to convert two of the three units of the big co-polymer plant at Institute, W. Va., to continuous-flow, cold-rubber production lines.

But while these changes are being made, the company is not wasting productive capacity. The third production unit is turning out general-purpose synthetic rubber by the hot "batch" process (pictures). This one unit has been operating since mid-April. It was started up a little less than two months after Goodrich-Gulf acquired the plant from the U.S. government.

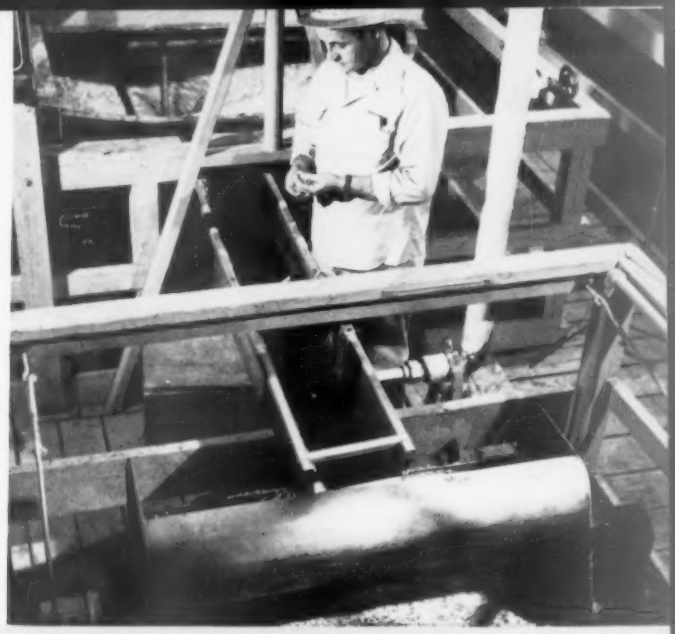
The Institute plant was the last and largest of the 27 government-owned plants sold to private industry. Goodrich-Gulf paid $11-million—$6-million above book value—for the 122,000-ton-a-year plant.

The company will spend $6-million to convert the two production units to the continuous-flow cold-process method, incorporate other recent technical improvements in

5 Crumbs are dried by hot air in this unit on long continuous belts. Drying requires less than two hours.

6 Sticky raw rubber crumbs are knocked off the dryer belt as the material nears the end of the production line.

3 Polymerized liquid latex is pumped into swirling acid and brine solution, where it coagulates into crumbs.



4 Acid and brine are filtered out through a screen. Rollers then press the crumbs into loose, undried form.

rubber-making that were not originally built into the Institute plant, and add a power plant.

The cold rubber that will be made by the continuous-flow production lines has a greater resistance to abrasion and a higher tensile strength than hot rubber. The cold type is used primarily in passenger car tire treads, and accounts for about 60% of all synthetic rubber.

Keeping one line on the batch method for making hot rubber gives the plant facilities for making a pliable rubber that finds outlets as tire carcasses and many non-tire uses, such as molded and extruded mechanical goods. The batch method also permits the economical production of small orders.

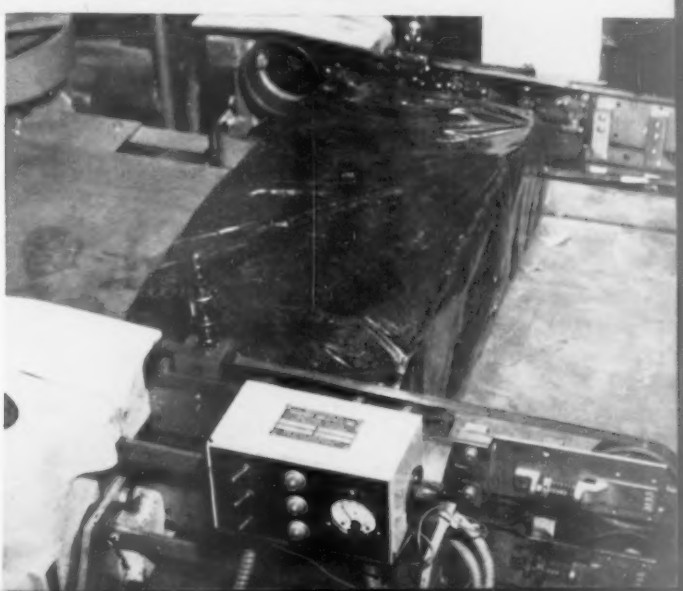
The basic differences between the two rubber-making processes are the temperature and the continuity of polymerization. In the batch method, the raw materials—butadiene, styrene, soap, modifiers, and catalysts—are pumped into each of 12 reactors in the production series. After mixing and polymerization (occurring at 122F) each batch is discharged into what are called blowdown tanks for further processing.

The continuous-flow, cold-rubber process is pretty much what the name implies. The raw materials are pumped continuously into the first reactor, into the second, and so on to the 12th reactor, where polymerization is completed. During the polymerization reaction, temperature is maintained at 41F.

The latex is then pumped into a processing unit. There it is coagulated, dried, and prepared for shipment—similar to the steps used in the batch process.

7 Rubber is compressed into 75-lb. bales. Periodically, a sample is cut and sent to the lab for testing.

8 An automatic machine wraps the bales of synthetic rubber in plastic for shipment to manufacturers.



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What's New / IN REFINING

Imperial Builds 5 Units

Imperial Oil Ltd. will build a 4,000 b/d Powerformer at its Ioco (B. C.) refinery. It's the fifth such unit for the company.

The contract for building the Esso Research fixed-bed catalytic reformer at Ioco was awarded to Canadian Bechtel, Ltd. It includes construction of a prefractionator and a hydrofiner for treating the reformer feed.

Imperial is building a 9,000 b/d Powerformer at Montreal East. Other similar units are either on stream or nearing completion at Imperial refineries at Sarnia (13,500 b/d), Halifax (6,300 b/d), and Edmonton (2,200 b/d).

Including the Imperial Powerformers, 20 such units are now being built or on stream.

The Western Petroleum Refiners Assn.'s annual question-and-answer session on refining technology will be held in El Dorado, Ark., Oct. 19.

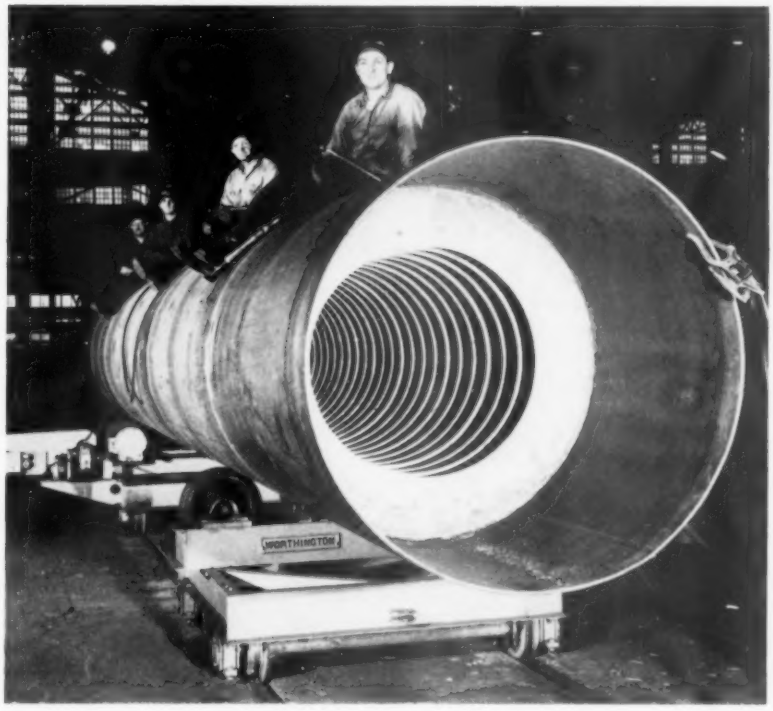
The session, which features a panel of process engineering and process operating experts to answer questions submitted by refiners to the association, will be part of a two-day meeting starting Oct. 18.

•

Texas Natural Gasoline Corp. plans a gasoline plant north of Baker, Mont.

After propane, butane, and natural gasoline has been stripped from the gas, the residue will be sold to Montana-Dakota Utilities Co.

It will be the second plant of its type in Montana. The other is at Cut Bank.



Rotary Disc to Sweeten Gasoline

The 60-in. diameter rotary disc contactor (above) is on of two to be used in the 130,000 b/d crude oil unit at Tidewater Oil Co.'s new refinery at Delaware City, Del. The 60-in. disc, which will stand 60 ft. tall will be used for the solutizing treatment—mercaptan removal—of heavy naphtha. A 72-in. disc, about 25 ft. in height, will be used in the treating process for light gasoline. A variable-speed rotor will turn disks inside the shell. The 60-in. contactor is being built by Baldwin-Lima-Hamilton under contract with C. F. Braum & Co.

GENERAL REFRACTORIES

A COMPLETE REFRACTORIES SERVICE...

for the Petroleum Industry

LITECAST 50—
A hydraulic-setting insulating castable refractory material, having a density of approximately 50 lbs. per cubic foot. Its extreme light weight and exceptionally low thermal conductivity make it an efficient and economical heat insulator. Recommended for vessel linings and backing for brickwork for other heavier castable refractory materials.

HIGH-STRENGTH BRIK-CAST—
A hydraulic-setting castable refractory material unique in that it contains more bonding agent, which results in a product more resistant to the physical actions of impact, erosion, and load bearing. Used extensively for lining regenerator chambers and catalyst lines in catalytic cracking units.

LITE-CAST 50-M—
A 50-pound density insulating castable, having a high degree of purity, used as a liner in vessels and lines where atmospheres must be controlled, or contamination of internals must be avoided. LITECAST 50-M may be applied in the same manner as standard hydraulic-setting castables.

BRIK-CAST 3000—
A hydraulic-setting castable refractory material, composed of clays and bonding agents having the highest purity, resulting in a product with a high operating temperature (3000° F.), and resistance to reducing atmosphere in carbon monoxide attack. Recommended for sulphur burner chambers and other vessels operating above normal cracking and reforming temperatures.

GENERAL REFRACTORIES CO.
Philadelphia 2, Pa.

The original 26 Broadway, in 1885.

An Era Ends — Socony

Socony Mobil Oil Co. is ringing down the curtain this week on oil's most famous business address—26 Broadway.

The first group of Socony employees already have pulled out of the famed old building on lower Manhattan. They began work this week in the ultra-modern offices of Socony's new building—a glistening, stainless-steel-clad, 45-story skyscraper in midtown Manhattan. The new address: 150 E. 42nd Street.

All of Socony's 2,500 employees, hundreds of desks and typewriters, and tons of office supplies and records will be transferred to the company's new headquarters over the next three or four weekends.

Chelsea-Allied Moving Co. is handling the actual transfer, which is timed to minimize interference with office routine. As many as 15 vans will shuttle back and forth during a move. Altogether they will haul about 1,000 loads, or 1.2-million cu. ft. of office equipment.

The slickly efficient move was three years in the planning. Thousands of decisions had to be made; no details could be overlooked.

Research and development of all factual data in connection with the decision to move was made by a Space Committee, headed by V. B. Geibel. The Space Committee's recommendations were referred to Socony's board of directors for final decision.

The Space Committee engaged architects, decorators, consulting engineers, and a general contractor for space improvements. A Planning & Working Group subcommittee was set up to study and develop all detail and special problems in connection with the move and to submit proposals to the Space Committee for policy decisions.

As the new offices neared completion, blueprints showing the location of desks and files in each office went to department heads. The department heads also received detailed instructions on how to prepare for the move.

The furniture at "26" was inventoried and classified by the Planning Group as to (1) suitable to continue in use, (2) transfer to other company offices, and (3) for disposal by sale to employees or others.

On the basis of this classification, all furniture is tagged: blue, "Move uptown"; green, "Transfer to other company offices"; yellow, "For disposal."

In addition, a special booklet, containing detailed information about the new headquarters, was prepared and distributed to all employees.

Packing directions from the movers instructed employees what to put in boxes, what to leave in desk drawers, how to secure liquid containers, what to do with typewriters and other equipment and how to tag everything.

Every office was treated as a unit, so that the same number was used for the desk, associated chair, typewriter, file, and the like.

The biggest problem was deciding how much space to allocate to each department, and to each worker.

The space had be adequate not only for current requirements, but for possible expansion needs in the next two to five years as well. Standards of space vary according to office requirements (ranging from about 65 sq. ft. to 70 sq. ft. per person for secretaries and clerks to about 280 sq. ft. for top executives).

On the basis of approved requirements, the architect laid out department space allocation on floor plans. These layouts were based on the work relationship of one department to another.

Socony has signed a 25-year lease for 25 floors in the new building—largest built in New York in the last quarter of a century.

Current headquarters operations are taking 22 floors. The remaining three floors, now subleased for relatively short terms, leave room for expansion. The company has options to renew the lease, and to obtain additional floor space.

Socony's decision to lease, rather than build, is based on its management's belief that the company should invest its capital in the oil business, not in real estate.

The new headquarters provides the space, and efficiency, that 26 Broadway no longer could supply.

"No company making progress can rest on its original plans," says B. Brewster Jennings, board chairman. "The time finally came when we had to decide whether to go on making piecemeal arrangements to house our people or find new quarters altogether."

The decision to move didn't come easy. But 26 Broadway was too small, too crowded, and too inefficient for a growing company. In recent years, some departments had to be housed in other buildings in the neighborhood. And the cost of modernizing and expanding "26" ruled that approach out of the question.

The need for more space and a better location, and the fact that, as principal tenant, the new skyscraper would carry Socony's name, were major factors influencing the move.

The 28-story building at 26 Broadway will be leased to new tenants. But its 71-year marriage to oil is ended. A colorful—and important—page of oil's history has been written.

Old "26" became irrevocably linked with the oil industry in 1885, when John D. Rockefeller built a handsome nine-story building (picture, page 40). Since that time, 26 Broadway has

GENERAL REFRACTORIES CO.
Philadelphia 2, Pa.

FROM OLDFASHIONED DOORWAY Flying Red Horse goes . . .

TO GLISTENING DOORWAY of Socony's new headquarters.

Mobil Moves Out of 26 Broadway

THE OLD BUILDING, after 71 years, has lost its last oil tenant.

THE NEW BUILDING, in which Socony has leased 25 floors.

been the scene of many changes—changes that affected not only the physical nature of the building but also the character of the industry.

Between 1895 and 1899, the building was enlarged by an additional wing and by a tower, making it 15 stories high. Then the building remained fairly intact until 1922, when work began to bring it to its present size.

Tremendous changes already had occurred in those years. When the first building was completed, the streets outside were crowded with carriages and horsecars. Green eyeshades, gaslights, and rolltop desks were the rule inside.

"Oil for the lamps of China" was a familiar phrase of the day. Oil men at 26 Broadway were shipping cargoes of kerosine to China for several years—more kerosine than was needed for the number of lamps then available in China. So the oil men began to ship millions of lamps—to be distributed free—so that the Chinese could use the kerosine.

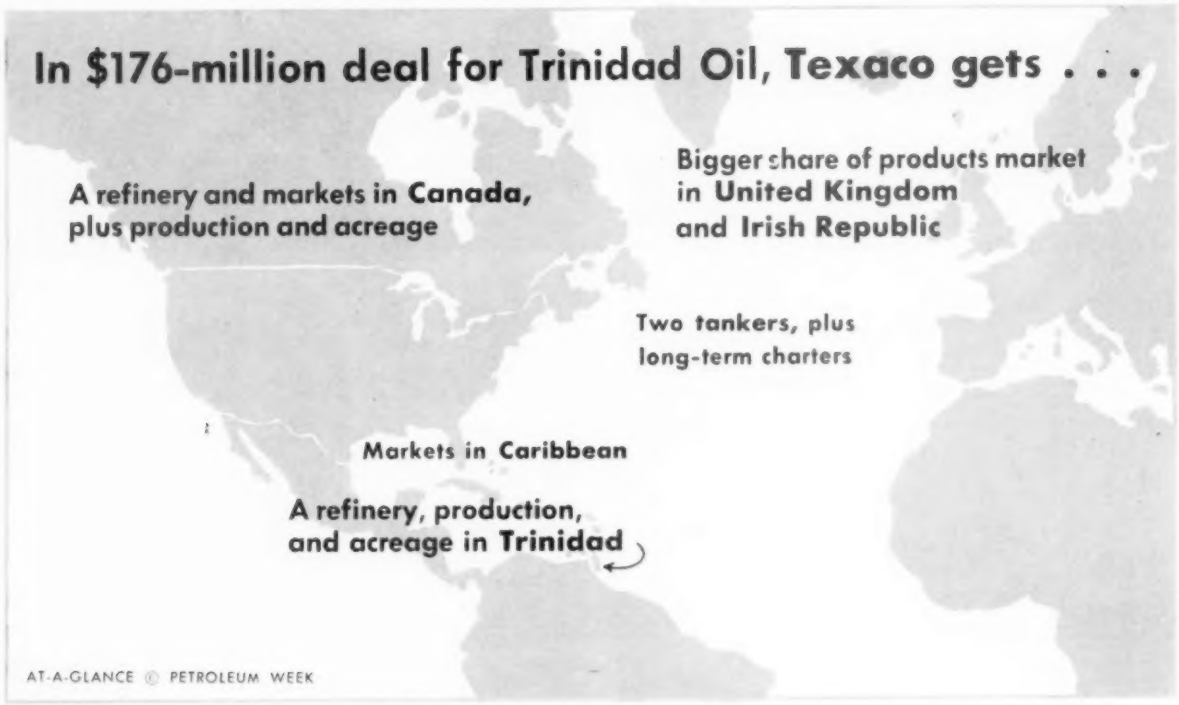
In 1911 the U. S. Supreme Court decreed that the Standard Oil Trust violated the Sherman antitrust act. It ordered it broken up into 34 separate and competing companies. One of these was Standard Oil Co. of New York (Socony), which remained at 26 Broadway as owner and principal occupant.

Rockefeller had maintained an office in "26," but after the dissolution order he very rarely entered the building.

But while 26 Broadway grew older in rather haphazard fashion, it seemed to retain a touch of the Victorian grace and splendor that marked its early days. Perhaps nothing conveyed this atmosphere more strongly than the great number of ornate, log-burning fireplaces that abound throughout the building.

Many of these fireplaces have been in use to this very day. Even the famous oak-beamed, carved-ceiling board room is dominated by a log-filled fireplace.

These fireplaces, in a sense, symbolize the passing era of "26." The new building is air-conditioned; it has no fireplaces.


In $176-million deal for Trinidad Oil, Texaco gets . . .
A refinery and markets in Canada, plus production and acreage
Bigger share of products market in United Kingdom and Irish Republic
Two tankers, plus long-term charters
Markets in Caribbean
A refinery, production, and acreage in Trinidad
AT-A-GLANCE © PETROLEUM WEEK

Expansion Capital Key to Texaco Deal

The Texas Co. last week bought 95% of the stock—and control—of British-owned Trinidad Oil Co., Ltd. Texaco thus solidifies its supply and market position in three important areas: Britain, the Caribbean, and Canada. It also underscores the vital role being played by U. S. investment in foreign oil.

Texaco's purchase of the remaining 5% of stock would close out a $176.4-million (£63-million pounds sterling) deal. At a reported $11.24 per stock unit, or 80¾ shillings, Texaco is paying almost twice the market price of Trinidad stock at the time of the original offer in June. (The stock jumped in price following the announced offer.)

And Texaco has successfully weathered a storm of protest in London against an alleged "sellout" to big American oil interests. These charges were refuted by the British government, which has backed Texaco's offer and Trinidad's desire to sell.

Result: Texaco now adds to its far-flung holdings an integrated company with scattered properties (map). For the fiscal year ended June 30, 1955, Trinidad has a consolidated net profit of $6½-million.

The British company has had headquarters in London, and only this past May changed its name from Trinidad Leaseholds, Ltd.

Texaco isn't revealing its plans for future operation of Trinidad Oil's holdings, which include:

In the United Kingdom, a 50% interest in Regent Oil Co., which supplies about 6% of the U. K. market. The other 50% interest was already shared equally by Texaco and California Standard, through California-Texas Corp. (Caltex).

Regent is the third largest oil distributor in the U. K. The leaders are (1) the combined operation of Royal Dutch Shell and British Petroleum, and (2) Esso Petroleum. Through an affiliate, Regent also markets in the Irish Republic.

In Trinidad, an island close to the coast of Venezuela, a refinery with 80,000 b/d capacity, 25,000 b/d of crude production, onshore and offshore acreage, and marketing facilities on the island. The refinery has been processing some crude for Texaco's account.

Elsewhere in the Caribbean, marketing subsidiaries in Jamaica, Puerto Rico, and the Dominican Republic. Trinidad has been marketing jointly with Shell in other Caribbean areas.

In Canada, an 89% interest in Regent Refining (Canada) Co., which owns a 14,000 b/d refinery near Toronto. Regent of Canada supplies about 1½% of the Canadian market distributing through some 500 service stations.

On the high seas, a subsidiary that owns two tankers (totaling 26,600 dwt.) and has six other tankers under long-term charter.

All these properties seem to fit well into Texaco's expansion plans, which early this year called for 1956 capital expenditures of between $325-million and $350-million—a new high.

The affiliate Caltex has been planning a new 40,000 b/d refinery in the U. K. Early next year, Texaco will complete a 20,000 b/d refinery in Cuba. The company's 100%-owned subsidiary, Texaco Exploration Co., has been doing well in finding new reserves in Western Canada. And the 59%-owned subsidiary, McColl-Frontenac Oil Co., has new or modernized facilities at both its 50,000 b/d Montreal and 11,000 b/d Edmonton refineries.

Where is Texaco getting the $176-million to buy Trinidad Oil? President Long says only this: "Undoubtedly we will do some temporary financing. The necessity for and extent of permanent financing will be decided at a later date."

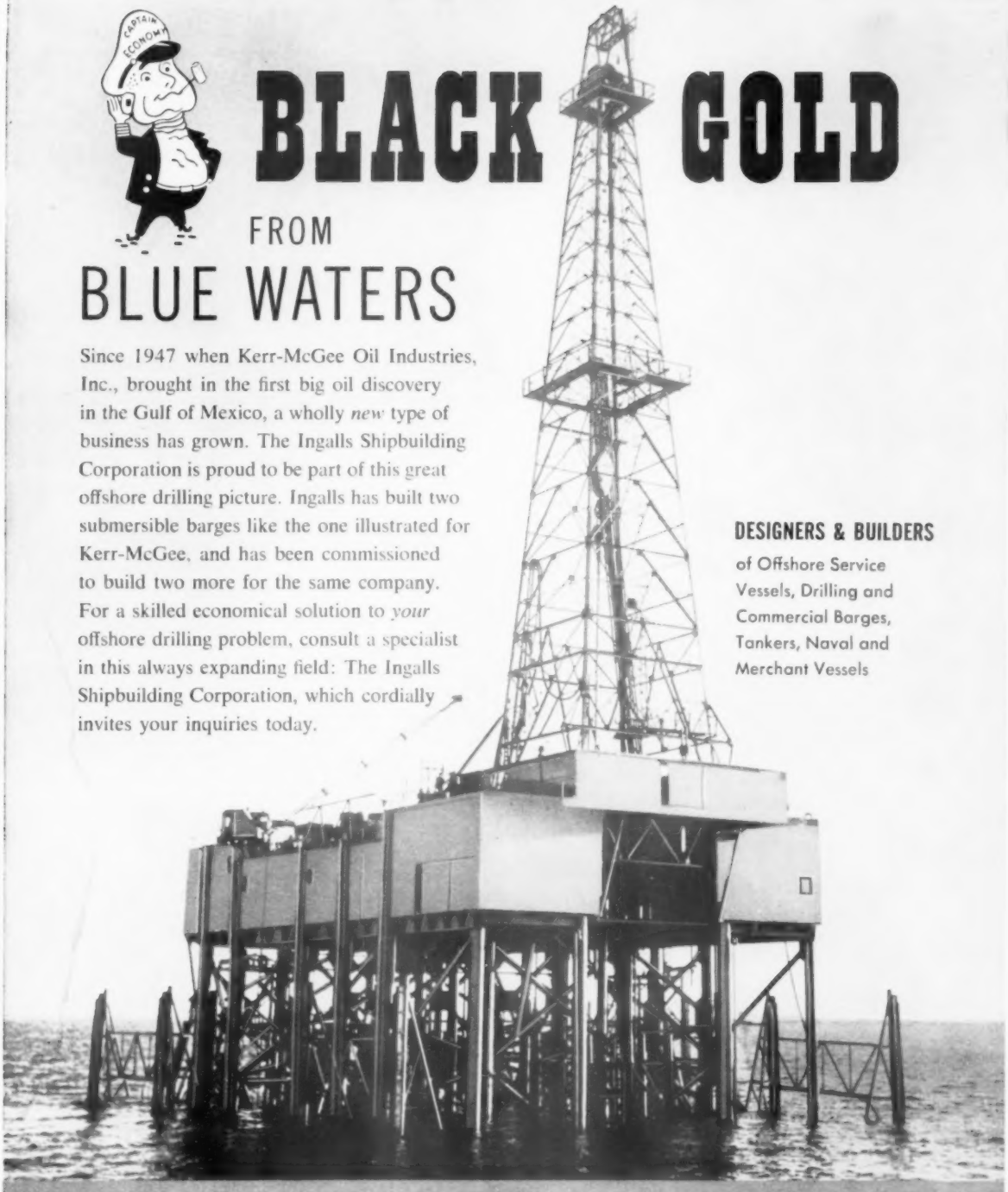
Trinidad's sale shows what can happen in today's international oil

BLACK GOLD FROM BLUE WATERS

Since 1947 when Kerr-McGee Oil Industries, Inc., brought in the first big oil discovery in the Gulf of Mexico, a wholly *new* type of business has grown. The Ingalls Shipbuilding Corporation is proud to be part of this great offshore drilling picture. Ingalls has built two submersible barges like the one illustrated for Kerr-McGee, and has been commissioned to build two more for the same company. For a skilled economical solution to *your* offshore drilling problem, consult a specialist in this always expanding field: The Ingalls Shipbuilding Corporation, which cordially invites your inquiries today.

DESIGNERS & BUILDERS

of Offshore Service Vessels, Drilling and Commercial Barges, Tankers, Naval and Merchant Vessels



THE INGALLS SHIPBUILDING CORPORATION

EXECUTIVE OFFICES: Birmingham, Alabama
SHIPYARDS: Pascagoula, Mississippi; Decatur, Alabama
SALES OFFICES: New York, Washington, Houston, New Orleans, Philadelphia, Chicago, Atlanta

". . . many parts of British Commonwealth have benefited from U. S. enterprise and capital . . ."

TEXACO PURCHASE starts on p. 42

play when a company can't keep up in expansion capital—and especially when it lacks enough low-cost crude.

Said Trinidad, in asking the British government for the required permission for the sale of stock control to a foreign interest:

"The oil business, with its rapidly changing character, needs tremendous capital reserves to meet the ever-growing necessity to install new facilities to acquire a volume of outlet for the vast quantities of crude available in the world; particularly in the Middle East.

"The fundamental fact is that Trinidad Oil has no cheap source of crude, such as is derived from the Middle East—although its main market, the United Kingdom, is now almost wholly based on Middle East crude."

Other points made to the government:

- The company's crude output in Trinidad was less than one-third of its refinery capacity. And although it bought the rest of the needed crude on the "best possible terms," it was nevertheless "vulnerable."
- The company lacked funds to hold up its end of the new refinery planned by its partner, Caltex, in the U. K.
- "Costs in all directions are rising, while the major companies are keeping prices down and increasing their volume."

All these factors come down to this:

As a result of sharp competition, Trinidad could not finance "any material portion" of its needs from income. And it felt that new, outside investment would be unwise, because profit margins did not "hold promise of proper returns."

Simon J. Vos, Trinidad board chairman before the sale, reported that Trinidad directors were convinced that "a giant" was needed to handle the company's business.

Texaco was the logical buyer because of its existing relationships with Trinidad Oil.

The tightness of capital was also behind the British government's clearance of the sale, and the 315-to-247 favorable vote by the House of Commons. Harold MacMillan, Britain's Chancellor of the Exchequer, argued that Trinidad's inability to finance its own expansion left the government little choice but to approve. His key point: "Provision of this capital from private sources, even if it could be obtained, would represent a considerable burden on the resources of the United Kingdom. And, since much of the expenditure would be overseas, there would be an additional strain on our balance of payments."

MacMillan observed during the debate that many parts of the British Commonwealth have benefited from U. S. enterprise and capital. And he continued, "If we approach this deal from too narrow a point of view, we not only take upon ourselves the burdens I have mentioned, but we also expose ourselves to the risk of discrimination against us in other countries."

He added, "We cannot hide from ourselves that it was, at first sight, something of a blow to see a great asset passing out of our hands." But he observed that, because Britain herself was dependent on overseas investment, "economic nationalism is the last thing in the world that could suit us."

The governments of both Canada and Trinidad share Britain's feeling that the value of sound investment outweighs any problem of American ownership. The Canadian government, according to a spokesman, was "not too greatly concerned with the controversy over the sale of Trinidad Oil Co."

And Trinidad's Labor Minister Albert Gomes observed, "We cannot be fastidious about the source from which capital comes into Trinidad. If it is not available from Britain, it must come from somewhere else."

The public uproar in Britain protesting the sale—despite what Trinidad Oil termed the "blunt truth" about its economic position—highlights the problem of nationalistic feeling that today's foreign oil investors have to face.

One newspaper carried a banner headline: "British Empire Now Deep in the Heart of Texas." The British Labor Party opposed the sale. It demanded that the government "prevent Britain's oil supplies from passing out of her control.

Typical of the charges was one made by the Laborite financial affairs spokesman, Harold Wilson, who declared, "Some people, at any rate, think the result of an increase in the monopoly holding of British oil interests by American interests will provide some very good pickings for someone, presumably at the expense of the consumer."

And a Conservative, Sir Beverly Baxter, said a "sellout to the American dollar" would have a disastrous effect on the whole of the British Caribbean Federation.

However, such charges are clearly answered by the conditions of the purchase.

The terms of the deal are aimed mainly at protecting the economies and the people of the countries where Trinidad Oil operated—especially Trinidad itself. For example, Texaco must insure that oil sold in the sterling area will be for sterling, not dollars.

Conditions of the agreement with the Trinidad government announced in London provide that:

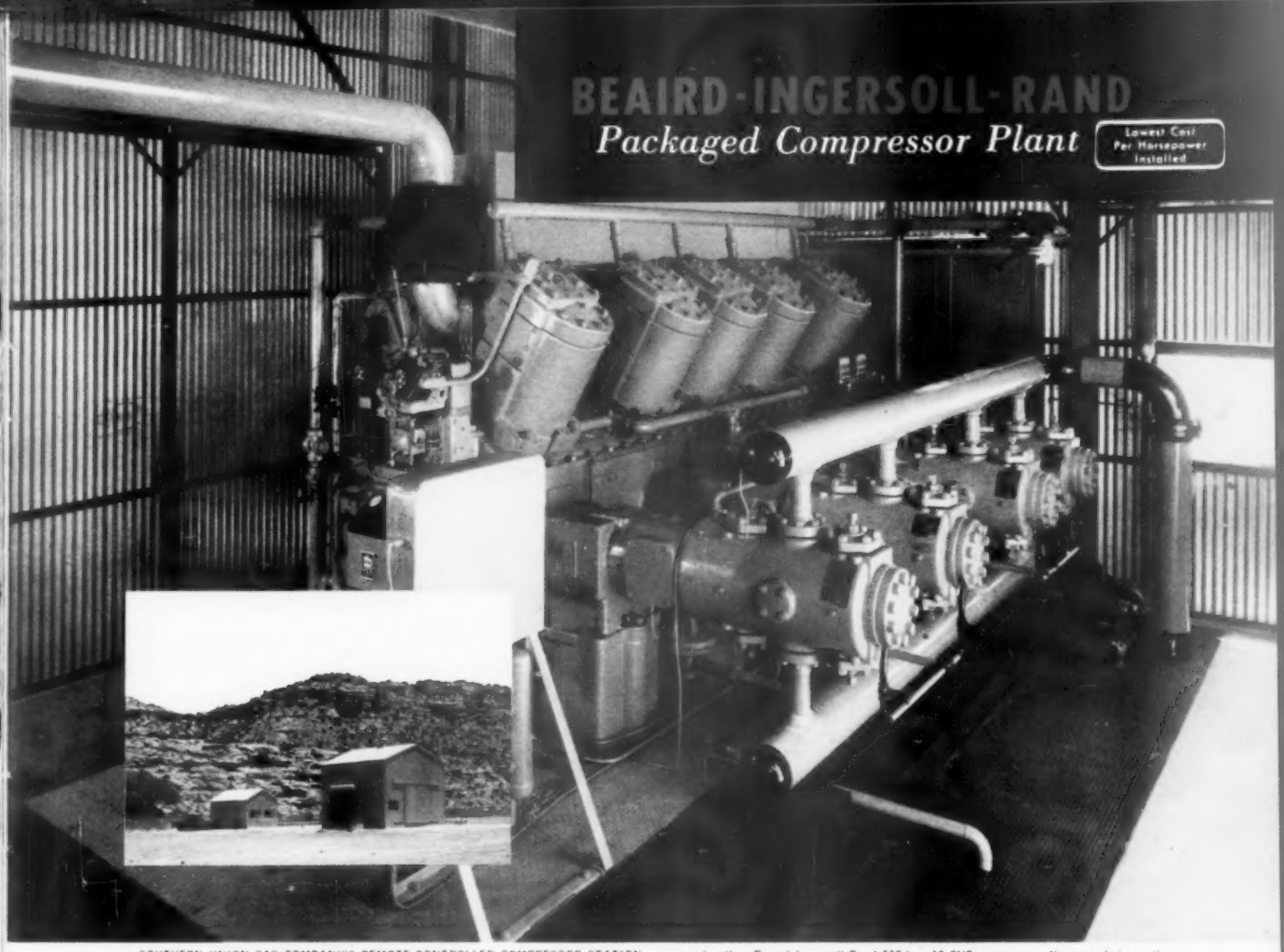
- Trinidad operations must be carried on by a company registered in Trinidad.
- Texaco will operate the Trinidad refinery at not less than the present average of about 70,000 b/d. This would be subject to Texaco's obtaining crude at a reasonable cost. Texaco will also continue processing arrangements with others, and marketing products at reasonable prices.
- Texaco will intensify drilling in Trinidad. It will operate at a higher annual average rate than Trinidad has over the past five years in total wells drilled, footage drilled, barrels of crude produced, and amounts spent on production.
- Industrial relations will be maintained on the basis of "established practice in Trinidad." Texaco will honor the existing agreement with the union, and minimize the employment of non-Trinidad personnel. It will provide technical training, with the aim of replacing non-Trinidadians wherever possible. Nationals will be given a reasonable opportunity to hold the highest positions in company operations. There will be no discrimination because of color or race by the company.

Members of Trinidad Oil's management and staff reportedly will be retained in their jobs by Texaco, or found equivalent positions. Chairman Vos and Trinidad's directors have resigned, pending clarification of their status. But Vos comments, "I believe there will be better chances of advancement for all under The Texas Co."

And he adds a rebuttal to protests that Texaco expects "vast profits" from the deal: "Don't think for a moment the size of the offer made by The Texas Co. insures their success in Trinidad. Oil is a gamble, and will always remain a gamble."

BEAIRD-INGERSOLL-RAND
Packaged Compressor Plant

Lowest Cost Per Horsepower Installed



SOUTHERN UNION GAS COMPANY'S REMOTE-CONTROLLED COMPRESSOR STATION—equipped with a Beaird-Ingersoll-Rand 550 h.p. 10 SVG compressor. Young radiator with lubricating oil cooler and gas coolers, and all necessary controls for unattended operation. Other sizes 110 to 660 h.p.

Southern Union Gas Company's Dogie Compressor station in El Largo Canyon, New Mexico, is more than 20 miles from the nearest paved highway and many miles farther from the nearest town. To boost gas from this lonely site Southern Union has installed a Beaird-Ingersoll-Rand 550 hp. 10 SVG packaged compressor.

Part of a 500-well gathering system, the Dogie Station compressor uses one stage of compression to pick up gas from 20 wells in nearby Ballard Field and boost it from 250 psig. to 500 psig. for delivery to the main line.

Normally inspected once a day, the station has been designed to overcome potential isolation caused by roads made impassable by deep snow, rain, swollen rivers and washes during severe San Juan winters. This problem of isolation has been solved by equipping the compressor with automatic controls and shut down devices that stand by day and night to protect the station and plant should any unusual operating condition occur. Now on a 40-hour weekly maintenance schedule, the station is capable of long periods of completely unattended operation.

Let us show you how a Beaird-Ingersoll-Rand packaged compressor plant can be designed to meet your special operating requirements.

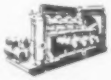
Packaged Compressor for —

REMOTE CONTROLLED

CANYON LOCATION

BEAIRD MACHINING MANUFACTURING STEEL WAREHOUSE

THE J. B. BEAIRD COMPANY, INC.



PACKAGED COMPRESSOR PLANTS

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SHREVEPORT, LOUISIANA • Sales Offices: *Dallas, Houston, Corpus Christi and Midland, Texas • New Orleans, Louisiana • Tulsa, Oklahoma • Denver, Colorado • Los Angeles, California, and Cie. Ingersoll-Rand, Paris, France*

BORON GASOLINE, long identified as a product of Standard Oil Co. of Ohio, is now on sale at this Newport (Ky.) service station. It's the first step as . . .

Sohio Moves Out of Ohio

Standard Oil Co. of Ohio is finally busting out of the confinement of its one-state marketing territory. Sohio, through a new subsidiary, Boron Oil Co. of Ohio, is now establishing a beachhead in Kentucky. And bets are down that it will be moving again in the lively midwestern market—soon.

Last week a recently opened "Sohio" station in Newport, Ky., (just across the river from Cincinnati), divested itself of all Sohio identification, put up the "Boron" sign, and started selling "Boron" premium and "X-tane" regular gasoline. The new station is selling products of Boron Oil Co. of Ohio—a spanking new subsidiary of Standard Oil Co. of Ohio.

Sohio's move, coupled with Jersey Standard's recent entry into the Wisconsin market (PW—Jun.8'56,p12), means that midwestern marketers have two mighty strong new competitors.

Hundreds of midwestern oil companies of all sizes are bound to feel the impact of the new competition for gasoline gallonage in the area. Standard Oil Co. (Ind.), Standard Oil Co. (Ky.), Pure Oil Co., and other majors in the Midwest will have to plug harder to keep their shares of the market. And smaller companies will be fighting to keep from being squeezed out of the picture entirely.

It's too early to tell how much this increased competition will affect midwestern gasoline prices. But some marketers—recalling the price wars touched off by the entry of Standard Oil Co. of California into the Eastern market a few years ago—say that the same thing could happen in the Midwest.

A full-scale marketing expansion outside of Ohio has been expected of Ohio Standard for a long time (PW—Jun.8'56,p29). The company had long ago outgrown the one-state marketing territory given it in the 1911 Supreme Court decision that dissolved the old Standard Oil trust.

Sohio's marketing-expansion plans, however, have been hindered by the territorial rights of other Standard Oil companies to the "Standard" name. Sohio is aware that its case would be hopeless if it tried to market outside of its own territory under a brand which even implies "Standard Oil." Such attempts by various Standard companies have a long record of failure.

Sohio realized this some years ago, when it formed two subsidiaries, Fleet Wing Corp., and Canfield Oil Co., to engage in outside-of-Ohio marketing.

This setup was part of the widespread operation of Standard companies through subsidiary brand names—such as Calso (Standard Oil Co. of California in the East) and Humble (Jersey Standard in Texas and New Mexico.) These subsidiary brand names have not been attacked as meaning "Standard Oil."

But, gradually Ohio Standard came to feel that getting consumer acceptance for Fleet Wing and Canfield could be a job both too long and too costly. So it de-emphasized both operations.

Now a recent federal district court decision in the Indiana Standard-Ohio Standard case holds that the Sohio brand means Standard Oil Co. of Ohio, and cannot be used in Indiana Standard's 15-state midwestern marketing territory. Ohio Standard is appealing the decision.

The Boron brand name enables Ohio Standard to have its cake and eat it: Sohio can now sell its products outside of Ohio under a brand which doesn't signify Standard Oil—but which has come to mean Sohio to many midwestern motorists.

Boron isn't a completely new brand; it's been associated with Sohio ever since the company introduced a new premium gasoline throughout Ohio about two years ago, and named it "Boron Supreme."

Since then, Ohio Standard has plugged "Sohio Boron gasoline" in newspaper, radio, television, and billboard advertising. Some of the billboards are right up close to the Kentucky and Michigan and Indiana borders. And papers, radio, and TV, of course, are not confined by state lines. So Boron isn't a new name on the gasoline horizon. A lot of midwesterners recognize it and associate it with Sohio.

The Newport (Ky.) station where Boron is now on sale—and subsequent Boron stations—will be careful to avoid any reference to "Sohio," "Ohio Standard," or "Standard Oil Co. of Ohio" (unless the parent company wins its appeal in the case brought by Indiana Standard.)

If Boron goes over in Kentucky—and the initial response has been "excellent"—Sohio will probably introduce it in other midwestern states as soon as possible.

Sohio will give the Boron brand a good market testing in Kentucky. If residents of Newport take to Boron, more Kentucky stations will be selling the "new brand" in the near future.

And if the gasoline goes over in the state as a whole, Ohio Standard may well forget about its Sohio brand court case with Indiana Standard—and concentrate on introducing Boron in other midwestern markets.

"Drive More" Grows Up

With increased oil company support assured, "Drive-More," the year-old market expansion campaign, is now making ready to shift into high gear.

The Drive-More campaign was begun last year (PW—Oct.21'55,p32), as a method of creative selling—an effort to boost over-all demand instead of battling for established business. The campaign was designed to convince motorists of the convenience, comforts, pleasure, possibilities, and economy of their private cars.

The "economy of frequent and lengthy automobile travel" was chosen as the best angle for attracting motorist interest. So the slogan, "Drive more, it gets cheaper by the mile," was born.

Statistics compiled by the American Automobile Assn. were drawn on to substantiate the "cheaper-by-the-mile" pitch. According to AAA, fixed depreciation, license fees, and insurance, add 5.2¢ a mile to the cost of a 5,000-mi. motor trip. But spreading the same costs over 15,000 mi., says AAA, reduces the average added cost to 2.5¢ per mile.

Ethyl Corp., which has sponsored the Drive-More program, calls it a resounding success.

Ethyl has spent an estimated $500,000 on shields, banners, posters, and other advertising materials to spread the word. Oil companies have been getting much of the material at printing cost, and some of it free.

Ethyl says that over 50 oil companies, large and small alike, have promoted Drive-More in some way during the past year. The latest to get behind the creative selling promotion are Esso Standard Oil Co. and The Texas Co.

Oil company use of Ethyl's advertising materials has been only one means of publicizing the campaign. Drive-More has also attracted the editorial attention of 17 oil industry publications, and 12 publications outside the industry. And 12 oil company house organs have also done stories on the drive.

Ethyl figures that Drive-More is expanding the gasoline market. There's no way, of course, of estimating the effect of Drive-More on oil company gasoline gallonage. Nevertheless, backers of the campaign say that, as Drive-More becomes fixed in the public's mind, "gallonage can't fail to increase."

And Russ Weston, Ethyl's advertising manager, makes another claim: "It (Drive-More) has helped, we believe, to stimulate the thinking of larger companies toward the expansion of the market for other petroleum products."

Now the aim is for even more oil company support to make sure the motorist stays Drive-More conscious.

Weston says that Drive-More "has given the oil industry a common theme to use, particularly those companies whose advertising budgets are somewhat limited . . . Through our direct efforts in advertising and promotion, we have carried the story of 'Drive-More—it gets cheaper by the mile' to many millions of Americans."

He adds, "The success of Drive-More in 1955-56 has been so good that we have no intention of dropping this important promotion."

What's New / IN MARKETING

Override Hearings Set For Next Month

The long-delayed Federal Trade Commission hearings on "overriding commissions" given to three major oil companies (PW—Apr.27'56,p39), have just been scheduled for early next month.

The first hearing in the case, which will examine the agreement between Texaco and B. F. Goodrich Co., will take place Oct. 15. A pretrial conference this week among attorneys for FTC, Texaco, and Goodrich laid the ground rules for the upcoming hearing.

FTC charges—and has been charging since January—that commissions oil companies receive from TBA suppliers for "recommending" their TBA brands to dealers constitutes a restraint of trade.

However, oil companies involved—Texaco, Atlantic, and Shell—say the dealers exercise free and independent judgment in purchasing TBA items. And they say that overriding commission agreements between TBA suppliers and oil companies are essential to competitive business and are within the antitrust laws.

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Phillips Marks Time

Phillips Petroleum Co. has no immediate plans for resumption of its marketing "March to Maine" (PW—Feb.10'56,p32), according to a company announcement.

E. H. Lyon, manager of Phillips sales department, denies reports that the company plans to push its marketing expansion on into Pennsylvania and New Jersey.

Lyon doesn't rule out such a move "sometime in the future," but he says that Phillips has no such plans at this time. "We have absolutely no plans at the present for going into new areas," says Lyons. "We have a big job to do in expanding in the areas we are already in."

•

Local ordinances restricting service-station building may be spreading in Michigan (PW—Aug.24'56,p33), but they've been rejected by the city fathers of Calgary, Alta. The Calgary City Council recently voted to keep hands off service station building in the Calgary area.

The council's decision came after it had received requests from the city's Automotive Retailers Assn. for a by-law to restrict the number of stations.

After some debate, the council agreed that, regardless of the number of service stations in Calgary, it had no right to interfere.

•

Octane ratings for premium gasoline increased 0.1 from July to August, while regular gasoline ratings remained unchanged, according to Ethyl Corp.'s latest monthly octane survey of 53 U. S. cities.

The August survey shows a national weighted average of 97.0 for premium and 90.1 for regular.

•

Oil heat promotion is kicking off an eight-week fall advertising drive in the lucrative New York City heating market. The drive, sponsored by the Better Heat With Oil Council, will feature periodic ads in five New York metropolitan daily newspapers. The oil-heat message will also be presented daily on one of the city's radio stations throughout the eight-week period.

IT'S A LONG, LONG WAY...

FROM HERE

TO HERE!

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UOP

UNIVERSAL OIL PRODUCTS COMPANY

30 ALGONQUIN ROAD,
DES PLAINES, ILLINOIS, U. S. A.

Forty Years of Leadership In Petroleum Refining Technology

FROM SHREVEPORT, Gulf Oil's Dr. Otto Van Rossum stops to check tour plans at congress excursion office.

FROM MOSCOW, Prof. D. Scherbakov is welcomed at airport.

FROM JOHANNESBURG comes Dr. Louis T. Nel.

FROM ANKARA, Turkey's chief oil adviser, Dr. Cevat Tasman.

FROM MIDLAND, Continental Oil's Dr. Charles D. Vertress.

World Geologists Meet in Mexico

MEXICO WAS ENJOYING a new tourist invasion last week as nearly 3,000 international geologists gathered in Mexico City for the 20th International Geological Congress. Delegates, some with their families, crowded the capital's hotels and enjoyed a round of Mexican fiestas scheduled for them.

Sixty-two nations were represented at the congress, out of 112 registered. The U. S. delegation of 200 was the largest, followed by a 90-man team from Russia. Many took pre-congress excursions to Chihuahua and Zacatecas mining regions, Poza Rica oil country, and Lower California, where Petroleos Mexicanos is wildcatting. Among those taking the latter trip was Dr. Robert Laffitte, secretary-general of the 19th Congress, which was held in Algeria. Many oil geologists chose the Poza Rica trip, while most non-petroleum geologists took a look at the mining regions. But all were back for the September 5 opening of scientific sessions at Mexico City's spectacular University City. Among opening day speakers were Pemex director Antonio J. Bermudez and exploration chief Antonio Garcia Rojas.

Chief Russian delegate Prof. Dmitri I. Scherbakov, in a brief speech before the opening, said Russia now has more than 25,000 geologists, whose work has created the base for its heavy industry. The Soviet Union, he said, "has very rich and diversified mineral and petroleum resources," and large sums have been assigned for their study and exploitation. "Now the Soviet Union is fully assured of all types of primary materials for many years," he added. He also expressed regret at the absence of Communist China's geologists.

OEEC Oil Unit Hikes Demand Forecast

- **Group predicts 53% jump in Europe's oil use by 1960. But pattern of demand is changing.**
- **So more Western Hemisphere imports will be needed to meet 1960 demand.**
- **Even so, Europe will need huge refinery expansion to keep pace.**

Contrary to general expectations, the Caribbean area will fill "a considerable and perhaps increasing proportion" of Western Europe's rapidly soaring oil needs, according to the Oil Committee of the Organization for European Economic Cooperation.

In a new forecast of Europe's 1960-1975 oil demand, being issued this week, the Oil Committee of the 17-nation organization predicts that imports may fill as much as 25% of Europe's total product demand, as compared with 15% currently.

The imports will be needed because of the fundamental, and growing, shift in Europe's consumption pattern toward heavier oils. The adjustment of refinery output in Europe to match these changing needs is "already becoming difficult," the committee reports.

Within the Eastern Hemisphere, outside of Europe, the demand pattern is about the same as in Europe itself. It is therefore considered unlikely that balancing imports of the heavier oils will be available from the Eastern Hemisphere in the future.

On the other hand, OEEC says, "Western Hemisphere supply and demand potential offers the prospect of considerable help in achieving an economic balance world-wide, and therefore of assisting the European position."

Europe's imports from the Caribbean area last year were, in fact, as high as they have ever ben. Crude oil imports had quadrupled to 8-million tons, from 2-million both in 1938 and in 1950. Product imports held at the 11-million ton level, the same as in 1938 and 1950.

The OEEC oil unit believes that the proportion of product demand that Europe's refineries can meet will probably fall from its present high of 85% to about 75% in both 1960 and 1975.

In the past seven years fuel oil use has increased at more than twice the rate of gasoline.

Demand for motor gasoline increased 100% between 1948 and 1955. But in the same period, fuel oil demand jumped 210%, and gas/diesel oil rose 138%.

This shift in the pattern is attributed by the Oil Committee to rising demand for energy which, for quantitative reasons, could not be met by Europe's coal production.

The Oil Committee disagrees sharply with the recent oil-demand forecast made by OEEC's Commission for Energy (PW—Jun.15'56,p36).

"Our estimate of consumption in 1960, although in our opinion conservative, is nevertheless above the maximum forecast put forward by the Commisison for Energy," the oil unit says.

I. Demand Will Skyrocket

The new study forecasts that Europe's 1960 oil demand will jump 53% over 1950. The total may double between 1960 and 1975.

The Oil Committee estimates total 1960 demand at 153-million tons. This includes 137-million tons for inland consumption, and 16-million tons of bunker requirements for European ports. Total demand in 1955 was 100-million tons, including 13-million tons of bunker oil.

Because it considers 1975 as too distant for "dogmatic prognostications," the Oil Commitee has not undertaken to make its own estimates for inland consumption.

It accepts as a "useful guide" the maximum estimate of 310-million tons forecast by the Commission for Energy. But it strongly implies that it is apt to turn out much higher.

To this figure, the Oil Committee adds a forecast of 30-million tons for maritime bunkers, bringing the 1975 total to 340-million tons.

Even so, OEEC's Oil Committee says its forecast of 153-million tons for 1960 is "conservative" and "should not be regarded as the probable maximum demand."

Its estimate of 137-million tons for inland consumption is substantially higher than the range of 107-million to 133-million tons forecast by the Commission for Energy.

The Oil Committee comments that the difference between the two forecasts is considerably greater than it appears because of basic differences in the approach and computations in the two studies.

The Oil Committee bases its figures entirely on the anticipated demand for oil, including bunker needs at European ports.

The Commission for Energy, on the other hand, regarded oil only as a balancing factor in Europe's energy position, and confined its study to inland consumption, excluding bunkers. It is estimated that the contribution of oil to the total energy supply would rise from its present figure of about 18% to between 21% and 24% in 1960, and to 24% to 36% in 1975.

Although the probable oil demand in 1960 represents a "massive advance" in absolute tonnage, the oil group anticipates a drop in the current high annual rate of increase. This is now running at about 15%, and at present shows "little signs of flagging."

In the postwar period, oil demand in the OEEC countries has increased at an annual compound rate of 13.2%, from about 37-million tons in 1947 to 100-million tons in 1955.

Per capita consumption has more than doubled in the OEEC countries as a whole, reflecting Western Europe's rapid postwar economic recovery. But the differences among the various countries are one sign that there's still plenty of room for growth.

The average increase for all was 127% in 1947-55, compared with approximately 30% in the U. S. The most striking jumps occurred in those countries that rose from abnormally low 1948 levels resulting from World War II: Germany, 362%; Austria, 323%; Italy, 246%. Others showing significant growth were: Sweden, 158%; Denmark, 147%; Belgium, 160%; France, 146%; and Turkey, 178%.

Thus far, petroleum's contribution to Europe's total energy needs has remained below that in the world as a whole.

In 1955, oil filled 18% of Europe's total energy requirements, as against 37% world-wide. In 1938, the figures were 8% in Europe, 20% world-wide.

The reason is that Europe's energy economy has long been based on an adequate supply of relatively low-priced coal. Oil's growth, therefore, has been

primarily in the fields where oil has traditionally been used, as in motor transport, for example.

It is only in recent years that significant demand for oil has developed for uses previously met by solid fuels.

By 1975, Europe's oil requirements will amount to about 20% of world consumption, the Oil Committee estimates.

Other Eastern Hemisphere countries outside the Soviet group will increase their share of the demand from a current 11% to about 16%.

The future of European oil-consuming countries and of Middle East oil-producing countries is "inextricably linked," the OEEC group warns.

On the one hand, Europe will depend increasingly on imports of Middle East oil to satisfy its future energy needs.

At the same time, both oil-producing and pipeline-transit countries in the Middle East depend on income from the vastly expanding European market to develop their economies and improve their living standards.

II. Shift to Heavy Fuel

Europe's pattern of oil demand in 1960-75 will continue the significant shift that started in the postwar years, with much greater consumption of heavy oil. This change is being further stepped up by the switch from gasoline engines to diesel engines for road transport.

The committee's estimates of demand for the main product groups, are as follows, compared with 1950 and 1955 (in millions of tons):

	Gasolines	*Distillates*	*Fuel Oil*
1950	13.3	14.8	20.4
1955	21.4	26.9	40.7
1960	32	38	71
1975	60		260

Analyzing main product needs, the Committee notes:

- Gasoline: There are "reasonable prospects" of increases in the use of products in the gasoline range.
- Middle distillates: gas/diesel oil use is rising fast, and increasing quantities of aviation turbine fuels are being used. There is little change now in use of kerosine as burning oil.
- Fuel oils: The demand anticipated in 1975 for middle distillates and fuel oil together "may well be described as dramatic." It would nearly quadruple, to 260-million tons from 68-million in 1955.
- Other products: Lubricants consumption is not showing any marked increase because the "effect of extended use is balanced by improvements in quality, and growing economy in application."

III. Problems for Refiners

A major expansion in Western Europe's refining facilities will be required, even assuming that imports may fill a 25% share of product needs.

Europe's current capacity is 120-million tons, representing a vast investment totaling possibly $3.2-billion to $3.7-billion, the Oil Committee estimates.

The group carefully weighed the question of how Europe's future product needs would be met, whether by a huge refinery expansion, by additional imports, or by a combination of both.

It came to the conclusion that the difficulties presented by refinery operations by the changing pattern of demand should not be overemphasized.

"It is true," the report states, "that projecting the present refinery output pattern in Europe to 1975, basing refinery runs on our estimates of motor gasoline off-take in that year, there would be a deficit in the heavier fuels of about 80-million tons. The problem is economic as well as technical.

"There are, of course, limits to the adjustment which can be made to the refinery output pattern. And though European refineries as a whole are currently producing a low yield of motor spirit, there is no technical reason why this reduction could not be carried somewhat further, and the yield of heavier oils correspondingly increased."

However, technical problems, together with a considerable variation in the demand pattern in different areas, may make it impossible for Europe's refineries ever to meet local demand economically in some regions.

With the trend toward heavier oils established, refinery installations specifically designed for maximum fuel-oil production are already being built.

But the Middle East crudes currently available are generally relatively high in sulphur content and low in residual fuel oil content, by comparison with Western Hemisphere crudes. (But it is possible that demand may promote development of heavy crudes.)

Even if refinery output and product demand in Europe as a whole could be brought into balance technically, imports will still be necessary in some areas where uneconomic cross-hauls would otherwise be necessary to supply demand from local plants.

IV. . . . and Transporters

The Oil Committee believes transportation and distribution facilities will present "serious but by no means insurmountable problems." Unless expanded proportionately, they could in fact prove bottlenecks to the development of oil consumption in Europe.

"The most determined efforts will be needed on the part of all concerned" to build up facilities, the committee says.

"Strenuous efforts" will have to be made for a very substantial expansion of the world's tanker fleet to accommodate the increasingly large quantities of oil required by Europe, as well as the rest of the world.

In 1948, oil accounted for more than 40% of world trade in tonnage carried. Now it is about 50% of world trade in all commodities.

The world tanker fleet now totals about 42-million tons, of which 38-to 39-million tons may be available for normal oil transport, the report says.

Tonnage now under construction and due for delivery in the next few years is assessed at 18-million tons more. But about 25% of the present fleet will be obsolete in the early 1960's.

"There is likely to be continuing pressure on tanker resources with the present patterns of oil production and transportation," the Oil Committee warns. The world's shipyards will be strained by the necessity for replacing obsolescent vessels. And the pressure on tanker resources could be intensified by any change in the major tanker routes.

New pipeline systems may ease the tanker situation somewhat. But however big the line, the report notes, pipeline transportation is more costly on a ton-kilometer basis than sea transport.

The construction of crude pipelines in Europe is now under preliminary consideration.

The increased oil demand forecast for Europe will throw "as great a strain" on storage and distribution as on any other part of the industry. In fact, the committee says, if the distribution system is not considerably expanded, it could limit oil consumption. The cost of building and operating storage is now "a very serious matter."

V. Prices Will Be Affected

The competitive position of Europe, a major oil consuming market, is "likely to have a strong influence on Middle East oil prices," the oil committee states.

In general, the market of oil is determined by the supply and demand situation world-wide, and the price of Middle East crude will therefore "in-

evitably reflect" the competitive impact of crude prices throughout the world.

In the period between the two World Wars, the influence of the Western Hemisphere market on prices was dominant.

But with the postwar shift of Europe's oil supply base to the Middle East's oil fields, the influence of the Western Hemisphere has become much less pronounced.

Prices in the Caribbean, now the world's main product exporting center, will in future set a ceiling to product prices in Europe as long as products are freely available in that area, the Oil Committee believes.

This will apply particularly to fuel oil, which Europe is likely to continue drawing from the Caribbean in supplemental quantities.

The cost to Europe is likely to be substantially less than that of an alternative imported energy source, such as U. S. coal.

Today the prices of Caribbean fuel oil at European seaboard on a parity basis correspond to about ⅔ of the cost of imported U. S. coal, the report states.

Since the U. S. coal export potential can be considered as a marginal source of energy supply for Europe, the price of fuel oil to the European consumer is unlikely to exceed the price of U. S. coal for any length of time.

Neither is the price of fuel oil likely to fall below that of European coal, which will remain Europe's major source of energy in the next 20 years.

This general price range would not hold invariably, of course.

Any increase, other than local, in the price of fuel oil in Europe above Caribbean parity would tend to attract more supplies from the Caribbean, the Oil Committee says.

"If again the world-wide demand for fuel oil showed a tendency to outstrip supply, the price would temporarily harden." A greater use of coal in the U. S. and higher production of fuel oil world-wide, would be encouraged. These factors would then combine to ease the Caribbean export supply position, and quotations would again fall.

On the whole, the Oil Committee expects that the competitive relationship "should tend to restrain any wide swings" in European fuel oil prices.

VI. Costs Are 'Staggering'

The capital required to meet rising oil demand on a global basis is "staggering," the Oil Committee says. It takes note of the Chase Manhattan Bank's estimate that $115-billion would be required over the next ten years, of which $41-billion would be invested outside the U. S.

Some industry experts estimate $120 as the over-all capital investment required per annual ton of increased output—outside the U. S. and at present prices.

Though different opinions exist about this figure and its breakdown, the Oil Committee considers that, "as a very rough guide," $40 might be attributed to the cost of finding and producing crude, $30 to refinery capacity, $30 to transport, and $20 to distribution facilities.

In Europe, additional refinery facilities may be of the relatively simple type for fuel oil production. This factor would tend to reduce the capital cost per ton of oil.

The cost of Europe's future oil needs will be large in terms of foreign currency. But generally the strain will be less serious than the cost of importing U. S. coal, the only other alternative form of energy that is available.

The balance of payments problem will not increase proportionately with Europe's rising oil consumption, the Oil Committee believes.

Because of the international nature of the oil industry, the postwar foreign-exchange drain has been lessened to an important extent, with part of the c.i.f. cost of oil imports paid for in local currencies.

It may be "more correct to speak of future oil imports being a demand on resources, rather than a severe drain on foreign currency reserves," the committee reports—to the degree that local currencies acquired are used for development of company operations in the OEEC countries and also for the purchase of goods and services for use abroad.

Wild Well Bathes Iran in Oil

Pools of oil are flooding the north Iran area near Qum as the National Iranian Oil Co.'s big new oil strike blows 80,000 to 100,000 b/d of 41 gravity crude into the air in the background. The well, drilled for the government company by Drilling & Exploration Co., is about 75 mi. south of Teheran locked between mountain ranges. A railway winding through the southern range links Qum with the Persian Gulf. Myron Kinley is now on hand to cap the wildcat.

Venezuela Seeks More Bids

VENEZUELA—Eighteen companies are expected to bid for oil grants in Barinas, the next area slated to be opened up for new concessions, Caracas sources reported this week. The new acreage is now expected to be offered around Oct. 1.

Opening of the Barinas acreage to bidding has been expected momentarily ever since President Marcos Perez Jimenez repeated recently that the government wishes to intensify oil development in the landlocked western state southeast of Maracaibo.

At present, Sinclair and Socony have an undetermined amount of shut-in production there. They'll jointly build a 100,000 b/d pipeline to carry the oil from the Silvestre area 211 mi. to Puerto Cabello on the Caribbean (PW—May4'56,p35).

Meanwhile, the official titles to several of the new Lake Maracaibo blocks, as published in the Official Gazette, reveal specifically the kind of cooperation the government wants from bidders for its own projects—in addition to record bonuses for the concession acreage.

• Venezuelan American Independent Oil Producers Assn., for example, must refine in Venezuela 30% of the oil it produces from its Block 10. This is double the minimum 15% that was specified for new concessions.

The company will also pay a 20% royalty. Its payment for the 24,700-acre block totals $19.4-million.

• The Sun-Atlantic combine will contribute $500,000 toward financing Venezuela's national petrochemical industry. This sum, together with the companies' bonus of $734 per acre, hikes the effective bonus for the 24,700-acre Block 1 to a total of $18.6-million. The companies will pay a royalty of 25%.

• Mene Grande will execute aerial magnetometer or scintillometer surveys for the government for one year—over any areas it selects. This provision is included in Mene Grande's winning bids for Blocks 2, 3, 6, and 11.

The cost of the surveys will add an undetermined sum to Mene Grande's payments of $134.5-million for six Maracaibo blocks, including two national reserve areas. The Gulf Oil affiliate will pay a standard 16⅔% royalty on the acreage.

• Shell's title to Block 7 stipulates that Shell will deliver an annual 60-million cubic meters of gas to the government for 15 years beginning in January, 1958, at a point in the municipality of Maracaibo. This means Shell will have to build a pipeline, but it has not yet been determined where it will begin or terminate.

This contribution is in addition to the standard 16⅔% gas royalty. The latter will be used for the national petrochemical industry and for a nationwide gas distribution network the government is planning.

Signal Exploration Co.'s title to Block 4, which it will hold jointly with Hancock, Sohio, and Pure Oil, specifies a royalty of 20¼% but no supplementary contributions. The bonus bid was $1,220 per acre, or a total of $33.7-million for the 27,600-acre block.

What's New / AROUND THE WORLD

Pressures Grow in Egypt

EGYPT—The government has reportedly told the Shell Co. of Egypt and the affiliated Anglo-Egyptian Oilfields, Ltd., to limit the number of their British personnel.

According to one oil source here, the Egyptian authorities said the two companies do not need more than 25 British staffers each for their operations in Egypt. There was no official confirmation of this report.

Rumors persist in Cairo that Anglo-Egyptian, Egypt's largest oil-producing company, is next on Nasser's list for nationalization.

The personnel department is already headed by an Army man and is carrying out a strict policy of "Egyptianization" (PW—Sep.7'56, p32). Preference is now reported to be given to Moslem Egyptians, to the exclusion of both foreign nationals and non-Moslem Egyptians.

•

U. S. Firm to Get Permit

ITALY—A Cities Service subsidiary is slated to get four exploration permits of the 38 that the government has decided to award under the new oil bill. The awards will be subject to any amendments in the controversial bill that may be made subsequently by the Italian Senate (PW—Sep.7'56, p35).

The 38 permits cover a total area of more than 1-million hectares, two-thirds of which are in southern Italy. Private firms will get some 743,000 hectares of the total. The balance is slated for units of the government-owned Ente Nazionale Idrocarburi.

Soc. Montecatini will get seven of the new permits in its own name. The Italian firm is a joint partner with Gulf in Petrosud, the company that found the first commercial oil in the Abruzzi region of central Italy. Gulf, however, has officially announced its "serious doubts" that it would be willing to operate in mainland Italy under the provisions of the oil bill as it stands now.

Snia Viscosa, another Italian company with U.S. connections, is slated for two permits. This firm has a drilling agreement on two present permits with MOFAG, a company organized by U.S. independents (PW—Mar.9 '56,p19).

Other permits, according to reports from Rome last week, are earmarked for: Agip Minerali (8); Soc. Ricerche Idrocarburi Minerali Affini (5); Soc. Mineraria Idrocarburie Affini (3); Soc. Petrolifera Italiana (2); Soc. Emiliana Esercizi Elettrici (2); Soc. Italiana Richerche (2); Soc. Idrocarburi Abbruzzo (1); Soc. Azienda Petroli Italiani (1); and Soc. Fondedile (1).

•

UNITED KINGDOM—British Petroleum plans to build a new crude oil terminal to accommodate supertankers at Popton Point in south Wales. A 60-mi. pipeline with 100,000 b/d capacity would carry the crude to BP's 60,000 b/d Llandarcy refinery.

•

SYRIA—The government has sent an Egyptian petroleum adviser on an inspection tour of European refineries before it decides on the winning contractor to build its own plant.

Dr. Fawzi el-Leithy, who replaced Col. Mahmoud Youness as head of the four-man Egyptian advisory team, will visit plants in Italy, Czechoslovakia, East Germany, and Britain and report back on his observations. The bids submitted to Syria have been narrowed down to one from Czechoslovakia, one from Procon, Ltd., of Britain (PW—Aug.10'56,p34).

Reports from official sources in

Damascus that the government had decided to accept the Czech offer were considered premature by reliable sources, also in Damascus. These sources confirmed that the Czechs had made the lowest bid, but said no final decision had been reached as of last week.

•

ITALY—Customs exemptions for imports of oil-development equipment have been extended through December, 1957. The exemption covers machinery and metal goods intended for oil exploration and development that cannot be supplied by Italian industry. It also extends to imports made by contracting companies.

More Italian-produced equipment is slated to be available in the near future, however, to meet the anticipated stepup in oil exploration. Emsco rigs and parts, for example, are to be manufactured by a Neapolitan firm both for sale within Italy and for export throughout the world (PW—Aug.17 '56,p25).

•

LEBANON—Prospects for a Japanese-Lebanese tanker company were short-lived (PW—Aug.24'56,p29). A representative of Iino Kaium Marine Transport Co. left Beirut after unsuccessful talks on the possibilities of a joint operation with the Lebanese government.

He commented that his firm, which owns a fleet of 12 tankers, could not supply vessels for the proposed joint company.

•

PAPUA—Two Stanvac-British Petroleum affiliates will use giant helicopters to speed oil exploration next year, following successful use of small helicopters in the dense Papua jungles.

The companies, Australasian Petroleum Proprietary Co. and Island Exploration Co., announced they will use three S-58 Sikorsky 'copters to transport two National 50 rigs, each capable of drilling to 10,000 ft. The rigs are being modified so that all components can be broken down to the aircraft's maximum 4,000 lb. load. The two rigs will be in continuous operation in 1957.

The companies last week started drilling at Barikewa, southwest of the Kikori River, on the second of three deep tests scheduled for this year, after a 17-month job of building an 8-mi. access road through the jungles (PW—Jul.20'56,p38). The third will be in southwestern Papua, about 30 mi. inland, close to the Morehead River.

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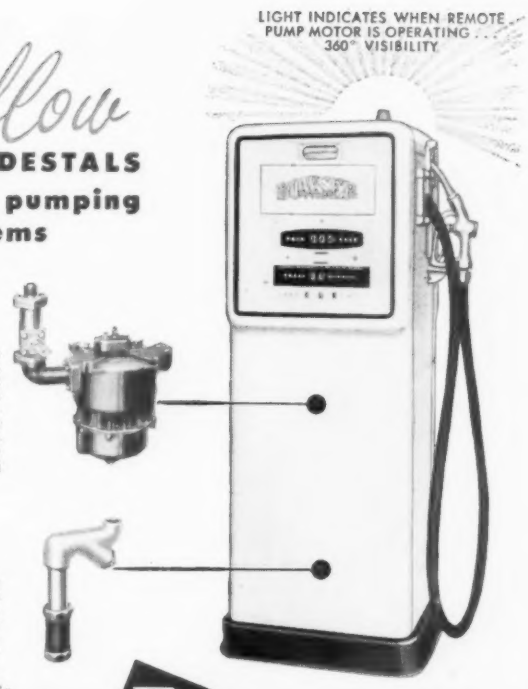

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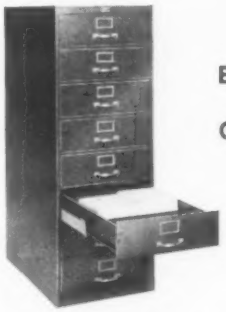

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The Market Place AROUND THE WORLD

Prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service and National Petroleum News, McGraw-Hill Publications

All Prices as of September 10

Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal. except dollars per bbl. where $ is shown)

Western Hemisphere

U. S. Gulf Coast, Cargoes
- Gasoline, 98 oct prem 13.25-13.75
- Gasoline, 92 oct reg 11.5-12
- Kerosine 9.125-9.75
- Heating oil, No. 2 ..... 8.5-9.5
- Gas oil, 48-52 d.i. 8.625-9.375
- Fuel oil, bunker "C" $2.10-2.15

Caribbean, cargoes
- Avgas, Grade 100/130 ..... 16.75
- Gasoline, 93 oct research prem 11.75
- Gasoline, 87 oct research reg 10.5
- Gasoline, 79 oct research 9.75
- Gasoline, 70-72 oct motor method 9.5
- Kerosine 9.125
- Heating oil, No. 2 ..... 8.5
- Gas oil, 48-52 d.i. 8.625
- Fuel oil, bunker "C" $2.10

New York Harbor, barges
- Kerosine 10.85
- Heating oil, No. 2 ..... 10.35
- Fuel oil, No. 6 ..... $2.80

Okla.-Group 3, northern, shpt, bulk
- Gasoline, 88 oct reg 11.75-12
- Kerosine 10-10.25
- Heating oil, No. 2 ..... 8.875-9.5
- Fuel oil, No. 6 ..... $2.00-2.20

Chicago, bulk
- Gasoline, 91 oct reg 13.25
- Heating oil, No. 2 ..... 9.75-11.1
- Fuel oil, No. 6 high sulfur 7.7-8.05

Los Angeles, rack
- Gasoline, 84 oct reg 12.1-12.9
- Diesel fuel, PS 200 ..... 9-9.8
- Light fuel, PS 300 ..... $2.65
- Heavy fuel, PS 400 ..... $2.15-2.25

Natural Gasoline, Grade 26-70
- **FOB Group 3 ..... 5†**
- **FOB Breckenridge, Tex. ..... 4.5†**

LP-Gas—Propane
- Oklahoma (Group 3) 4.5

Penna Lubes
- Bright stock 25 p.t. 27
- 200 vis. neutral, 25 p.t. 25

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent 95 v.i. 24-25
- Neutral, solvent 200-210 vis 19.75-20.75

Gulf Coast Lubes
- Bright stock solvent, 95 v.i. 25
- Neutral, solvent, 200 vis 21.5

Eastern Hemisphere

Singapore, cargoes
- Avgas, Grade 100/300 ..... 18.375
- Gasoline, 79 oct research 10.625
- Gasoline, 70-72 oct motor method 10.375
- Kerosine 10.125
- Gas oil, 48 d.i. minimum 9.75
- Fuel oil, light $3.40

KEY PRICES—CRUDE OIL

(2¢ differential per deg. of grav. applies except as noted)

Western Hemisphere

United States (at the well)
- Mid-Continent, 36.0-36.9 ..... $2.82
- North Dakota, 36.0-36.9 ..... 2.82
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9 ..... 3.05
  - Gulf Coast, upper and lower, 26.0-26.9 ..... 2.82
  - West Texas sweet, 36.0-36.9 ..... 2.82
  - West Texas-New Mexico intermediate, 36.0-36.9 ..... 2.75
  - West Texas-New Mexico sour, 32.0-32.9 ..... 2.61
  - East Texas flat price 2.90
  - Mirando, 28.0-28.9 ..... 3.11
- Illinois Basin flat price 2.90
- Pennsylvania Grade, Bradford dist, flat price 4.68
- California, Signal Hill, 21.0-21.9 ..... 2.41†
- North Louisiana-Arkansas, 36.0-36.9 ..... 2.82
- Wyoming sweet, 36.0-36.9 ..... 2.75
- Wyoming sour, 32.0-32.9 ..... 2.48

Canada (flat prices, at the well)
- Acheson-Stony Plain (Alta.) D-2, D-3, L.C. 2.54
- Leduc-Woodbend (Alta.) D-2, D-3 ..... 2.60
- Redwater (Alta.) D-3 ..... 2.49
- Daily-Mississippian (Man.) 2.34
- Smiley-Viking (Sask.) 2.26

Venezuela (Cargoes, FOB lifting port designated)
- Cumarebo, 48.0-48.9, Tucupido 3.40
- San Joaquin, 41.0-41.9, Puerto la Cruz 3.04
- Oficina, 35.0-35.9, Puerto la Cruz 2.80
- Tia Juana Medium, 26.5-26.9, Amuay 2.30*
- Bachaquero, 16.5-16.9, Amuay, Las Piedras 1.90**
- Tarra, 38.0-38.9, Cardon 2.91
- Lagunillas Heavy, Amuay, Cardon, Las Piedras, flat price 2.05

Differential per ½ deg. grav.: (*) 2.5¢ bbl. (**) 3.5¢ bbl.
†Differential per deg. of grav. varies.

Eastern Hemisphere

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabian, 36.0-36.9, Ras Tanura 1.97
- Basrah, 32.0-32.9, Fao 1.79
- Iranian, 34.0-34.9, Bandar Mashur 1.91
- Iranian, 34.0-34.9, Abadan 1.86
- Iraq, 36.0-36.9, Fao 1.87
- Kuwait, 31.0-31.9, Mina-al-Ahmadi 1.72
- Qatar, 39.0-39.9, Umm Said 2.06

Middle East, Eastern Mediterranean
- Arabian, 36.0-36.9, Sidon 2.46
- Iraq, 36.0-36.9, Tripoli, Banias 2.46

Far East, (Cargoes, FOB Lutong, Sarawak)
- Seria Light, 37-38 ..... 2.60

KEY TANKER RATES

(Last paid, per long ton, single voyage)

U. S. Gulf-New York, clean ..... (USMC +70%) $4.85[1]
U. S. Gulf-New York, dirty ..... (USMC +55%) $4.42↓[2]
NWI-USNH, dirty ..... (USMC +57½%) $4.25↑[3]
NWI-UK/Cont., dirty ..... (Scale +130%) 74/9*
Persian Gulf-UK/Cont., dirty ..... (Scale +95%) 99/6*
Pers. Gulf-USNH, dirty ..... (USMC +60%) $20.32↑

**Sterling Owners asked: (1) $4.85/5.70 (USMC +70/100%); (2) $4.56 (USMC +60%); (3) $4.32 (USMC +60%).*

The Market Trend

Gasoline: The 'Iffy' Product Right Now

The big if in the price picture is what will happen to gasoline between now and the end of the year. Tendencies toward weakness are apparent. But there are steadying influences, too.

Gasoline market will probably hinge on developments in the Gulf Coast cargo market. It's highly possible, however, that seasonal price reductions may show up on their own in the Midwest, and perhaps also in the East. The strongest point in gasoline's favor right now is that there is no real pressure of cargo offerings at deepwater plants in Texas and Louisiana.

The gasoline market at the Gulf depends not only on the quantity of supply available, but also on who actually holds it. Independent refiners, for example, are often the first to get into a storage bind, and thus be forced to dump product. The independents right now have only about six cargoes to sell for fall lifting—which means they still have fairly empty shelves for this time of year. And of the six cargoes, only perhaps two can be called "anxious," and these for lifting fairly well forward.

It's the major, integrated refiners who hold the lion's share of gasoline stocks at the Gulf. In some cases, larger stocks are being dictated by current or anticipated marketing of "super" grades of motor fuel. Also, quite a bit of low-octane gasoline is earmarked for sale as jet fuel to the government.

But majors don't have any tank stretchers when it comes to gasoline, either. A sharp increase in allowables for Texas crudes, for example, could put some of them in a jam for clean-products storage.

And the independent picture could change overnight, too. Last week, two independents actually had to buy a little gasoline to meet commitments. However, on the iffy side, there are about 50,000 b/d of independent processing deals due to expire in the next few months. If independent Gulf refiners then try to keep up runs through special inducements to spot gasoline buyers, there almost certainly will be a price break.

No. 2 Quiet Season:

Prompt business on heating oils is in the dumps, but chilly weather in the Upper Midwest shook out a few inquiries. Oklahoma refiners received requests for 40,000 bbl. of No. 2 and 20,000 bbl. of kerosine.

Some rough bidding showed up recently in Brooklyn, when a barge reseller offered to supply No. 2, delivered by truck, at 11.62¢ a gal., firm, for a year. Deduct from this 0.75¢ for trucking, 0.2¢ for throughput, and 0.15¢ for barging—and you wind up at 10.52¢, only 0.17¢ above posted New York barge of 10.35¢.

1% Resid:

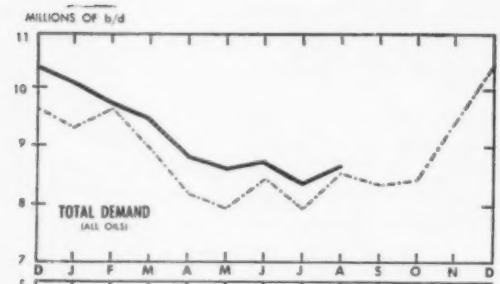
Prices at the Gulf started to recover from the 10¢ set-back caused by the steel strike. Last week, low-sulfur residual was quoted in cargoes at prices ranging upward from $2.20 a bbl., up 5¢.

Grade 26-70:

A large Mid-Continent manufacturer of natural gasoline raised his quotations 0.5¢ a gal. last week. His new prices were 5¢, group 3; 4.5¢, Breckenridge.

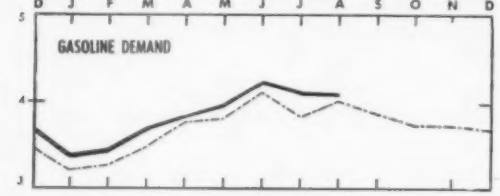
PETROLEUM WEEK'S

Fingertip Figures



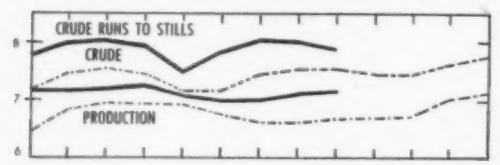
TOTAL DEMAND

Latest 4-week average	8.679
Year ago	8.248



GASOLINE DEMAND

Latest 4-week average	4.133
Year ago	3.956

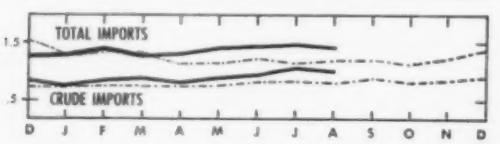


RUNS TO STILLS

Latest week	8.187
Previous week	8.098
Year ago	7.554

CRUDE PRODUCTION

Latest week	7.037
Previous week	7.109
Year ago	6.655

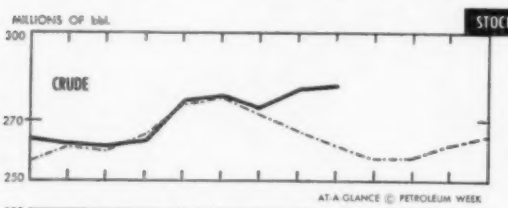


TOTAL IMPORTS

Latest week	1.305
Previous week	1.368
Year ago	1.126

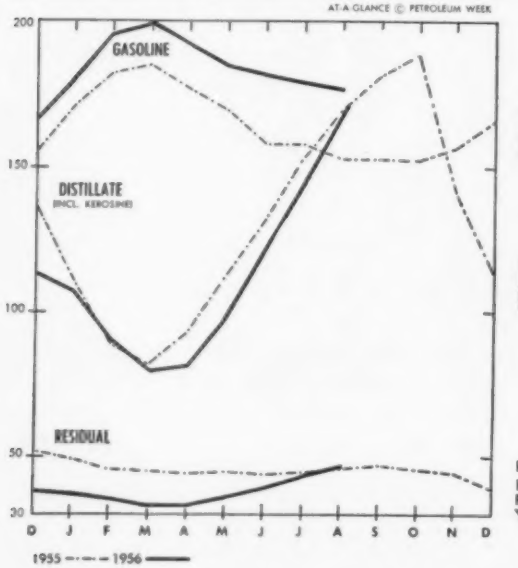
CRUDE IMPORTS

Latest week	.975
Previous week	1.083
Year ago	.865



CRUDE STOCKS

Week-ended 8-31	278.7
Previous week	276.9
Year ago	259.8



GASOLINE

Latest week	176.0
Previous week	175.6
Year ago	154.3

DISTILLATES

Latest week	175.4
Previous week	170.9
Year ago	173.4

RESIDUAL

Latest week	47.2
Previous week	46.8
Year ago	47.1

Demand for domestic crude oil in the fourth quarter will probably be less than for any of the previous quarters of the year, barring a shutdown of the Suez Canal.

The exact level of demand for domestic crude in the last three months of the year depends both on the Suez situation and on whether or not any effective measures will be taken to reduce the volume of imports. But assuming for the moment that the Suez Canal remains in operation, and that imports are not reduced substantially, there now appears to be no need for any increase in domestic producing rates in the coming three months.

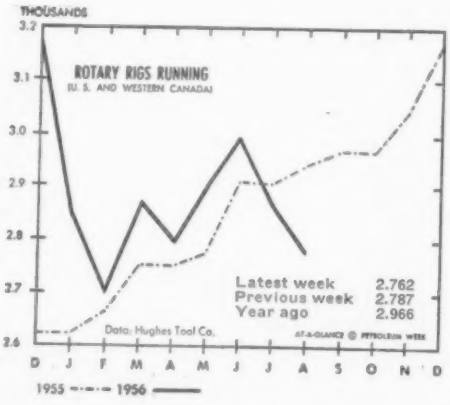
Oversupply continues to be the industry's big problem, despite a good demand so far. And it appears that the high stock levels will plague the industry well into 1957, unless the Suez Canal is closed.

In the first eight months of the year total new supply—domestic production plus imports—exceeded total demand by 265,000 b/d. Such a rate of inventory accumulation was nearly three times the rate in the first eight months of last year.

Only a strong demand through August, running 5.8% ahead of last year, has prevented inventories from getting entirely out of hand. The high-demand winter season would be a good time for corrective measures in the rate of supply.

* * *

Refinery runs and gasoline production last week both set new all-time records. And despite high gasoline demand for the week (4,086,000 b/d), motor fuel stocks increased.


THOUSANDS
ROTARY RIGS RUNNING
(U. S. AND WESTERN CANADA)
Latest week 2.762
Previous week 2.787
Year ago 2.966
Data: Hughes Tool Co.
AT-A-GLANCE © PETROLEUM WEEK
D J F M A M J J A S O N D
1955 1956

GEORGE H. MEASON has joined Tennessee Gas Transmission Co., Houston, as chief process engineer. He was formerly with the technical and research department of Humble Oil & Refining Co., in Baytown, Tex. Meason will develop a technical organization within TGT's plants and processing department. He will also work on processing and technical problems of Bay Petrloeum Corp., a wholly-owned subsidiary of TGT.

H. D. (Deep) HENDERSON has resigned as coordinator of foreign operations for Sohio Petroleum Co., to become manager of production and supply for Trunkline Gas Co., Houston.

R. C. McMAHAN has been named assistant district superintendent for Sunray Mid-Continent Oil Co.'s Kansas district, at Great Bend. **Hobson S. Mann** succeeds McMahan as Oklahoma district engineer at Oklahoma City. Mann was formerly Pauls Valley (Okla.) area superintendent. **W. C. Chronister** has been named senior production engineer for Sunray's North and West Texas district, at Midland. Chronister was formerly a member of the company's engineering division staff at Tulsa.

KARL W. SHIMEALL has been elected vice-president in charge of southwestern operations for Crown Central Petroleum Corp., Baltimore. He formerly was vice-president of refining. He will be succeeded by **Richard T. Colquette**, vice-president of Pan-Am Southern Corp. Colquette has taken early retirement from that corporation to accept the position. He will be headquartered in Houston.

LLOYD CRAWFORD has joined Sterling Tank & Steel Co. at Sterling, Colo., as partner in charge of sales.

AL SOLARI, former supervisor of the Bakersfield district of Standard Oil Co. of California, has been promoted to supervisor of exploration in Standard's home office in San Francisco. He will be succeeded by **Brad McMichael**, who was formerly with Standard's exploration offices in Seattle, Wash.

DOUGLAS H. McGINNESS will head the newly formed Kansas exploration division of Apache Oil Corp. at Wichita. He was formerly a member of the geological staff of the National Cooperative Refining Assn.

H. W. HINKLE has been named comptroller of Phillips Petroleum Co. Hinkle succeeds **R. E. Parr**, who is retiring. **H. W. Bettis** has been named deputy comptroller, **E. R. Leverett** manager of the accounting control division, and **G. J. Wilcox** chief accountant of the analysis and statistics section.

W. G. (Bill) WARNOCK, purchasing department coordinator for Sunray Mid-Continent Oil Co. at Tulsa, will retire Nov. 1 after 40 years of service. Warnock joined the Sunray organization in 1916 and later became assistant superintendent of the high-pressure stills unit at the company's Tulsa refinery. In 1946 he was named manager of the materials and purchasing department.

X-L REFINERIES, LTD., Edmonton Alta., has elected three new directors. All are officers of Pacific Petroleum, Ltd., Calgary (Alta.) subsidiary of X-L. They are: **George L. McMahon**, president; **Dr. Charles L. Heatherington**, vice-president in charge of production and manufacturing; and **L. M. Youell**, assistant secretary.

REAR ADMIRAL CARL G. DRESCHER, formerly director of the Armed Services Petroleum Purchasing Agency, has been appointed assistant director of foreign operations for Sinclair Oil Corp. Drescher will assist in managing Sinclair's foreign exploration, production, supply, and distribution in both the Eastern and Western Hemispheres. He will make his headquarters at New York.

WILLIAM F. MARTIN will manage manufacturing of pump products and oil field products for the Byron Jackson division of Borg-Warner Corp., Los Angeles. He was formerly manufacturing manager of the Clinton Road plant of General Motors' Euclid division, in Cleveland, Ohio.

ELMER R. ERICKSON has been elected president of Northwestern Refining Co., St. Paul Park, Minn. Erickson was formerly executive vice-president and secretary of the independent refinery.

JACK L. MATAYA has been named district geophysicist for Stanolind Oil & Gas Co. Mataya was formerly a geophysicist at Stanolind's East Texas exploration district, at Tyler.

G. R. TAYLOR has resigned as executive vice-president, director and member of the executive committee of McColl-Frontenac Oil Co., Ltd. Taylor recently completed 26 years with McColl-Frontenac. He has also resigned as a director of Antilles Petroleum Co. (Trinidad), Ltd., Montreal Pipe Line Co., Ltd., and Portland Pipe Line Corp.

C. E. SCHUYLER will superintend the Shawnee (Okla.) district for Service Pipe Line Co. He succeeds **W. L. Hadley** who is retiring after 40 years of service. **C. E. Rickey** succeeds Schuyler as Shawnee division master mechanic. Rickey was formerly chief engineer at Drumright, Okla.

HENRY DAVID, president of Milwahite Mud Sales Co., Houston, has been elected a vice-president and director of Mississippi River Fuel Corp., St. Louis.

ARTHUR F. TRUEX, manager of Sun Oil Co.'s Mid-Continent production division at Tulsa, will retire at the end of the year after 32 years of service. Truex joined the company as a geologist in 1924. He became chief geologist of the company's Mid-Continent division in 1929 and was named manager of the division's

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For Sale—5 oil wells in Brown County, Texas. Full 7/8 lease, on 160 acres. Depth 1200'; water flood successful in same area. Now producing 13 bbls. Producing from sand estimated 85% oil still in place. Box 428, Kilgore, Texas.

For Sale—7 inch casing and 2 inch upset tubing and rods, 3 tank pumping unit and also 5½ inch casing. FS 2924, Petroleum Week.

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land and geological department in 1930. In 1944, he was named division manager. **George W. Chapman** succeeds him in that position. Chapman was formerly land department manager of Sun's southwest production division at Dallas.

WILLIAM H. CRADDOCK will superintend Shell Pipe Line Corp.'s Wasson-Hobbs (Tex.) division. He was formerly superintendent of Shell's Bayou Pipe Line system at Port Neches, Tex.

GEORGE F. RUSSELL has been elected comptroller of Service Pipe Line Co. He joined Service in 1935 and later became a specialist in pipeline valuation work. He succeeds **James L. (Jerry) Donavan,** who is retiring. **J. J. Willenburg** will manage the company's Missouri and Illinois divisions at Galesburg, Ill. He was formerly manager of the Illinois division, with headquarters in the same city.

E. J. GEMMILL has been named assistant manager of Cities Service Oil Co.'s southwestern exploration division, at Midland, Tex. **John M. Armstrong** succeeds Gemmill as southwestern division geophysicist at Midland. Armstrong was formerly district geophysicist at Midland.

GEORGE A. STOVALL will head the reservoir engineering section of the production department of Vickers Petroleum Co., Inc. He will headquarter at Wichita, Kan. Stovall was formerly with Standard Oil Co. of Texas. **E. C. Abrahamson** has been named Wichita division geologist.

W. FLOYD TAYLOR has been named district foreman in charge of Shell Oil Co.'s new production subdistrict office at Woodward, Okla. The office will supervise operations in the Oklahoma and Texas Panhandles and northwestern Oklahoma.

J. H. LOUDON, general managing director of Royal Dutch Petroleum Co. and chairman of the board of Shell Caribbean Petroleum Co., has been elected to the board of Shell Oil Co., New York. He succeeds **Dr. H. Bloemgarten,** who has retired.

ADVERTISERS IN THIS ISSUE

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861 Rhodes-Harverty Bldg.
Walnut 5778

Boston 6 — Edward A. Callahan, Jr.
350 Park Square Bldg.
Hubbard 2-1760

Chicago 11 — G. L. Hackley, Jr.
W. F. Holbrook
520 North Michigan Avenue
Mohawk 4-5800

Cleveland 15 — J. E. MacArthur
1510 Hanna Bldg.
Superior 1-7000

Houston 25 — David G. Sawyer
724 Prudential Bldg.
Jackson 6-1281

Los Angeles 17 — Peter S. Carberry
1125 W. Sixth St.
Madison 6-9351

New York 36 — Edward A. Callahan, Jr.
Donald R. Thompson
330 West 42nd Street
Longacre 4-3000

Philadelphia 3 — W. A. Potter
Architects Building
Rittenhouse 6-0670

San Francisco 4 — William C. Woolston
68 Post Street
Douglas 2-4600

Tulsa 19 — J. A. Hartley
209 Constantine Bldg.
611 South Boston
Gibson 7-5594

England, London E.C.4 — Herbert Lagler
McGraw-Hill Co., Ltd.
95 Farrington St.

Other Oil Industry Personnel Changes:

Company:	To:	From:
Amerada Petroleum Corp.		
H. A. (Art) Nedom	Eng, Tulsa	Dist eng, Williston, N. D.
J. R. Enloe	Dist eng, Williston	Mgr engineering, Tioga, N. D.
D. E. Boone	Mgr engineering, Tioga	Eng, Tatum, N. M.
American Maracaibo Co.		
Lynn Walker	Reservoir evaluations eng, New York	Creole Petroleum Corp., Venezuela
Bell Rubber Co.		
Pat W. Franklin	Sales rep, southern Oklahoma	Bovaird Supply Co.
Big Chief Drilling Co.		
Cecil Bates	Tool pusher, Oklahoma City	Tool pusher, Marlow, Okla.
British American Oil Co.		
Robert Marsh	Geologist, Billings, Mont.	Geologist, Denver
Larry Lager	Geologist, Denver	Geologist, Midland, Tex.
Cities Service Oil Co. (Del.)		
Clyde K. Parker	Dist landman, Amarillo, Tex.	Landman, Wichita, Kan.
Robert A. Clark	Landman, Wichita	Landman, special assignments, Bartlesville
Gulf Oil Corp.		
Robert G. Bacon	Dist mgr, Binghamton, N. Y.	
C. L. Pepperd	Special rep, farm markets, New York div	Dist mgr, Binghamton
Booth Kellough	Div attorney, Denver	Legal staff, Tulsa
Jones & Laughlin Supply Div		
John B. Shakely	Sales rep, Oklahoma City	Asst dist sales mgr, Ardmore, Okla.
Lion Oil Co.		
Dale Armstrong	Asst dist scout, Salt Lake City	Denver staff
Magnolia Pipe Line Co.		
C. Fred Carl	Crude rep, Dallas	Crude rep, Wichita Falls, Tex.
Joe R. Lennon	Crude rep, Wichita Falls	
North Dakota Geological Survey		
David S. Johnson	Subsurface geology div, Grand Forks, N. D.	
Northwest Geological Service		
M. H. Smith	Mgr, Bismarck, N. D.	
George Stocker	Resigned	Mgr, Bismarck, N. D.
Phillips Petroleum Co.		
W. N. (Bill) Jones	Dist landman, Abilene	Landman, Amarillo
Richfield Oil Corp.		
George H. Clark	Geologist, Bakersfield, Calif.	Exploitation eng, Shell Oil Co., Casper, Wyo.
Shell Oil Co.		
Vernon E. Whitney	Geophysicist, Oklahoma City	Geophysicist, Wichita Falls, Tex.
Charles F. Gieg	Asst sales mgr, Chicago	Dist mgr, Portland, Ore.
F. C. Cutting	Asst to v-p, personnel, industrial rel, New York	Asst to v-p, eco devel
J. E. Marsland	Asst to exec v-p, New York	Mgr, mfg technological dept, New York
J. M. Brackenbury	Mgr, mfg technological dept, New York	Supt, Martinez (Calif.) refinery
J. B. Dunlap	Supt, Martinez refinery	
Shell Oil Co. of Canada, Ltd.		
J. P. Callum	Retail mgr, Montreal	Sales mgr, Central Div, Toronto
Sinclair Chemicals, Inc.		
Maurice E. Peterson	Sales rep, nitrogen prod div, Hammond, Ind.	
Sinclair Oil & Gas Co.		
Fred A. Dunham	Plant supt, Drumright, Okla.	Plant supt, Covington, Okla.
Theodore W. Updike	Plant supt, Covington	Chief eng, Price, Tex.
Standard Oil Co. (Calif.)		
H. K. Newell	Dist sales mgr, Cedar City, Utah	Asst dist sales mgr, Spokane, Wash.
The Texas Co.		
J. Howard Johnson	Asst mgr, LPG sales div, Tulsa	Supt, gas, gasoline plants, prod dept, Oklahoma div
Tidewater Oil Co.		
Frank P. Brunetta	Supervisor, costs, statistics, eastern div, marketing dept, New York	Olin Mathieson Chemical Co.
U. S. Steel Corp., Oil Well Supply Div.		
Paul H. Roberts	Denver rep	Casper (Wyo.) rep
Warren Petroleum Corp.		
B. J. Gulledge	Dist sales mgr, LP-Gas div, San Francisco	LP-Gas sales staff, Omaha
Welex Jet Services, Inc.		
W. B. Clark	Asst div mgr, Oklahoma	Dist mgr, Shawnee, Okla.
New Ventures—		
John Beard	Consulting geologist, Evansville, Ind.	Geologist, Pure Oil Co.
Kenneth G. Grandall	Pet, natural gas eng consultant, Houston	

People Are Changing, Too

ONE OF THE MOST significant trends in the oil business rarely shows up in profit statements, although it has a lot to do with the size of the figures.

People are getting harder to deal with. The reason is that their thinking is changing. And this is putting to a new test the oil industry's traditional flexibility to meet changing conditions.

Jersey Standard's H. G. Mangelsdorf defined the trend last month when he said, "As the economic level rises, the necessities are becoming relatively less important. People are becoming more sensitive to change, and less willing to accept it without asking why" (PW—Aug.31'56,p20).

Jersey for one feels this fact is so important that it has named Mangelsdorf the new full-time head of its Advisory Committee on Human Relations. His assignment is to run down the implications of new thinking and to evaluate them.

THERE IS ONE FORM of the new sensitivity, in particular, that is certain to draw a close look from Jersey and other oil companies pushing human relations studies. This is the universally growing demand for equal status, and the increasing reluctance to accept higher authority at face value without being given any explanation.

The new questioning attitude on the part of oil employees has already placed emphasis on the "win cooperation" approach in personnel handling, as a substitute for the old "do it this way or else" system.

Abroad, oil companies have their hands more than full in coping with rising nationalistic feelings that demand international equality at almost any cost. The Suez crisis is an example.

BUT ONE OF THE BEST illustrations is right here at home, in the new thinking of the service station dealer. He is becoming less and less willing to accept an "inferior" standing in the industry without "asking why."

It is only partly a coincidence that, the same week Mangelsdorf was defining the change in human attitude, the National Congress of Petroleum Retailers was meeting in Washington to seek nationwide attention to station problems (PW—Aug.31'56,p36).

Behind the dealer's drastic demands for new supplier policies is the basic fact that, more and more, he wants to be accepted as a business equal. Evidence: The dealer is now talking about a national supplier-dealer relations board. He is suggesting that each supplier appoint a vice-president in charge of dealer relations. And he is considering the formation of dealer committees to negotiate grievances with supplier officials. Each of these proposals would raise the dealer's status.

SIGNS OF NEW THINKING can also be found on the rig floor, in the refinery bullpen, and in the home office. And the matter goes a lot further than this. As Mangelsdorf says, "Our job is to understand the new desires . . . of customers, stockholders, government officials, and the general public, as well as of employees."

The significance of changing thinking, whether it takes the form of resistance to established methods or any other, is hard to minimize. And this is why new human relations studies by Jersey and some other oil companies are so important.

Clearly, any sound policy must be based on what people are thinking. And if thinking is changing, policies must change too.

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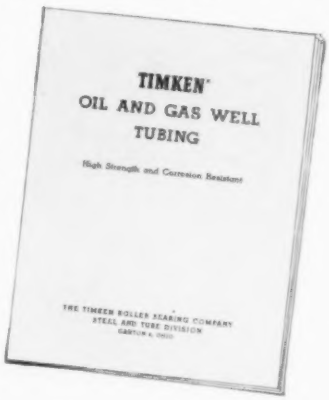

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